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DOLBY VISION
New tech for perfect pictures

Boxset binge!
Must-see shows from Netflix, Sky and beyond

ACTION STATIONS
Smash-hit flick *Deadpool* is ready to dazzle on 4K Blu-ray p98

High class

ELAC Debut series fires up Dolby Atmos

INSIDE BUYER'S GUIDE → READER'S ROOM → XBOX ONE 4K → OPINION
→ COMPETITIONS → HOW TO... SET UP A PROJECTOR → BASEMENT CINEMA

FILM & TV

- KUNG FU PANDA 3
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Welcome

Ever since the end of plasma TV (and even before then, actually), OLED has been touted as its natural successor. **This self-emissive technology promises the black level performance that wowed plasma owners**, coupled with vibrant colours, slick motion and gorgeous hardware design. LG's 55C6 – this issue's cover star – is a fine example, bringing movies and TV to life with pristine pictures.



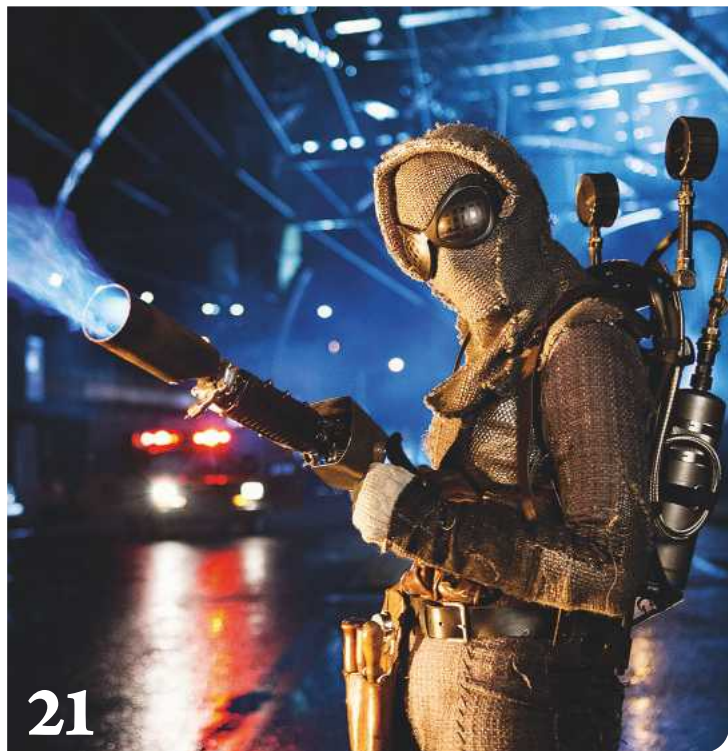
And while the advantages of OLED have usually been countered by high prices and a limited choice of screen, 2016 could finally mark the beginning of the OLED generation. LG has expanded its lineup to offer four separate ranges, with both curved and flat panel designs, and pricing – while still in the 'premium' category – is becoming more on a par with high-end LCD TVs. Might your next home cinema display be an OLED TV? Don't bet against it.

Mark Craven
Editor



WIN!
A ViewSonic
Pro7827HD Full
HD PJ bundle
worth £800!
p74

MENU



CONTRIBUTORS



John Archer:
The UK's most experienced TV tester cut his teeth as an early HCC staffer



Jon Thompson:
Film producer and post-production expert delves deep into Hollywood and AV



Steve May:
HCC's former Editor-in-Chief is one of the UK's most respected AV journo



Martin Pipe:
Technical expert Martin is renowned throughout the home cinema industry



Adam Rayner:
The UK's foremost expert in extreme audio writes about bass, hi-fi and, er, cartoons



Adrian Justins:
Made his name as the editor of *What Video & TV* and *What Home Cinema*

FEATURES

In-depth interviews and special reports. Starts... p21

COVER STORY

21 Boxset binge-watch

The best TV shows – and where to find them

COVER STORY

28 Dolby Vision: HDR unbound

Dolby's high-spec HDR format explained

32 Super smash brothers

Joel and Ethan Coen on making *Hail, Caesar!*

36 Box of tricks

Sunken cinema packs a lot into a tight space

88 Certified: AV-Holic

Another HCC reader shares their AV setup

SELECT

The place to look if you're planning to buy some new AV gear. Starts... p111

111 Gear guide

HCC's comprehensive Top 10s list only the very best kit money can buy

BULLETIN

The place for hot products, trends and technology. Starts... p7

07 Yamaha's new toy

Range-topping AV receiver breaks cover!

08 Sopra, so good?

Focal's high-end home cinema speakers

09 AV control put in a Spin

Innovative smart controller preps for launch

10 Panasonic turns off TV

Japanese tech giant pulls the plug on its LCD TV panel production

12 Ultra HD feels at home...

...but 4K broadcasters demand HDR standard

14 Clash of the titans

Superhero scrap hitting UHD BD this August

16 Back of the 'net

Trailers and tech to check out on the web

17 Home cinema, cubed

Teufel unveils Cubycon Impaq 5.1 system

REGULARS

Whether you want our opinions or your own, here's where to look. Starts... p77

77 Digital copy

Discovering the hidden joys of TV gaming

78 Film fanatic

Good news for fans of vintage 3D films

80 In the mix

Why *Rogue One*'s reshoots are a good thing

82 How to... set up your projector

Tips for getting the best largescreen images

84 Feedback

Share your thoughts with other AV addicts

122 AV Avenger

Has Microsoft saved the 4K Blu-ray format?

COMPETITIONS

86 Great Blu-rays to be won!

Grimsby, *High-Rise* and *Highlander: 30th Anniversary Edition*

SUBSCRIBE! Sign up to the world's best AV magazine and receive a **FREE** pair of Denon headphones **p18**



46



52



56



60



42

'Handling of dark HDR content is imperiously good'

REVIEWS

With a focus on performance, these are in-depth tests you can trust... p41

COVER STORY

42 LG OLED55C6

Superior 55in OLED flatscreen dazzles rivals with its premium-grade Dolby Vision/HDR 10 visuals and sleek styling

46 Trinnov Audio Altitude32

Stunning sound and impressive flexibility make this 32-channel object-based audio processor a must for any high-end setup

52 Philips 65PUS8901

Illuminate your 4K TV viewing with this latest evolution in Ambilight technology

COVER STORY

56 ELAC Debut 5.1.2

Accomplished loudspeaker system boasts effective Atmos add-ons

60 Sony VPL-VW320ES

Entry-level 4K Ultra HD SXRD projector with HDR compatibility

64 Nvidia Shield Android TV

Smart-looking set-top box is equal parts games console and 4K media player

66 Philips Screeneo 2.0

Make any room a cinema with this second-generation ultra-short throw projector

68 Libratone Zipp Copenhagen

Limited edition wireless speaker packs real multiroom potential

68 Wuaki.TV

Pay-per-view movie/TV download platform

70 Panasonic TX-40DX600

Ultra HD on a second room screen

71 Stormtrooper/C-3PO BT speakers

The Force is strong in these *Star Wars*-styled Bluetooth speakers

71 Optoma ML750ST

Compact portable projector delivers appealing largescreen images

72 Sony PS-HX500

A modern spin on the vinyl record player

PLAYBACK



The latest Blu-rays, DVDs and videogames reviewed and rated. Starts... p95

96 Zootropolis

10 Cloverfield Lane
Point Break

Zoolander No. 2: Magnum Edition
Kung Fu Panda 3: Awesome Edition

98 Deadpool [UHD Blu-ray]

100 Uncharted 4: A Thief's End
Ballers: The Complete First Season
From Dusk Till Dawn: Season Two
The Hollow Crown: The War of the Roses

101 High-Rise

102 Bone Tomahawk; A Bigger Splash;
The Ones Below;
The Cook, the Thief, His Wife & Her Lover;
Enemy Mine

104 Pride + Prejudice + Zombies

105 Snoopy and Charlie Brown: The Peanuts Movie 3D; Here Comes Mr. Jordan; Gilda; Too Late for Tears; Scott of the Antarctic

106 Blood Bath; The Witch; It! The Terror from Beyond Space; Night of the Living Dead

108 **COLLECTING...** Literary adaptations: 10 movies based on books that deserve a place in your Blu-ray collection

LG OLED TV 4K



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WITH
DOLBY VISION

What the Experts Say



LG EG960V
JUNE 2015



LG OLEDE6V
JUNE 2016



LG EG960V
JUNE 2015



LG EC970V

Model shown E6

BULLETIN

→ **News Highlights** **FOCAL** Sopra range adds centre, surround and subwoofer
TEUFEL Premium 5.1 all-in-one cinema system **SPIN REMOTE** The most stylish zapper ever?
PANASONIC LCD panel production comes to an end **NEWS X10** News stories in bite-sized chunks
BATMAN V SUPERMAN Comic book behemoth unleashed on UHD Blu-ray & MORE!

Yamaha's new toy

Yamaha RX-A3060 → uk.yamaha.com



Yamaha has revealed details of its new range-topping AVR ahead of a launch later this Summer. The RX-A3060 claims 150W for each of its nine channels, supports Dolby Atmos and DTS:X soundtracks (with 11.2 preouts), and features 4K HDR passthrough and MusicCast multiroom talents. It will be joined in the A60 lineup by step-down seven-channel models (A660, A860, A1060) and a nine-channel sibling (A2060). Pricing is still TBC.

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Sopra, so good?

Focal Sopra → www.focal.com

Centre, subwoofer and surround models have been added to Focal's Sopra lineup, making it a high-end home cinema option. The Surround Be speaker (€4,000 per pair) can operate either in bipole mode or as a dual mono speaker suggested for 7.1 arrays. The new SW 1000 Be sub (€3,500) partners a 600W BASH amplifier with 13in woofer, while the Sopra Center (€2,500) uses a three-way driver design. Also joining the range is the flagship Sopra N°3 floorstander (right) – yours for €18,000 a pair.



The Surround Be (left) has twin inputs so it can perform rear and surround duties in a 7.1 system

Power up your smart TV



TP-Link is targeting 'binge streamers' and smart TV users who suffer from Wi-Fi deadzones – and can't connect

to the faster 5GHz Wi-Fi channel – with its TL-WPA8630 powerline solution. The kit offers AC1200 dual-band (2.4GHz/5GHz) Wi-Fi with ultra-fast 1200Mbps powerline transfer speed. The use of 2x2 MIMO tech should also result in faster and more stable connections, which TP-Link says makes it 'ideal for 4K streaming'. The TL-WPA8630 powerline kit is available now, priced £125. uk.tp-link.com

Loewe launches new sub



German high-end AV brand Loewe has introduced a new bass box to its lineup of home cinema speakers.

The Subwoofer 300's compact black chassis houses three 6in bass drivers (one active, powered by 150W of built-in amplification, and two passive radiators) and has the ability to drive two external Loewe speakers (at 75W per channel) when used as part of a 3.1 system, with one of the brand's TVs acting as the centre channel. The Subwoofer 300 is available now, priced £600. www.loewe.tv

AV control put in a Spin

Innovative crowd-funded smart remote prepping for pre-IFA launch

Described by its Dutch inventors as 'the simplest, most stylish remote ever,' the Spin Remote is hoping it can tackle the thorny issue of multiple handsets in an AV setup while wooing buyers with its form and functionality. *HCC* caught up with the brains behind the eye-catching handset at the recent EISA Convention for a demo.

The thinking behind the Spin Remote is based on two notions. Firstly, many households have button-strewn handsets to control all their gear, leading to redundant keys, complicated operation and general frustration. Says Spin Remote: 'The average household has four or more devices that require a remote control with an average of 40 buttons on each. Do you really need 160 buttons when all you want to do is watch TV, play a movie or listen to some music?'

Yet the company also believes the answer isn't in an app controller on a smartphone or tablet. Explains Arjan van Bremen, Spin Remote co-founder and UX wizard: 'You have to get the device out of your pocket, enter your password to unlock it, swipe to find the app, open the app, and then select the



Arjan van Bremen: Spin Remote's co-founder believes the smart zapper combines style and simplicity

correct function.' Enter the Spin Remote, designed to be a permanent addition to your setup, which uses a combination of

motion, orientation and rotation sensors and a touchpad to drive your gear.

The remote certainly wins when it comes to aesthetics. While most universal controllers mimic the shape and feel of a traditional IR zapper, this is a pebble/puck-shaped gizmo destined to get hipsters stroking their beards.

A proximity sensor in the remote means it becomes active when a hand is placed near it. It's therefore ready to use as soon as it's picked up. And it is very much a handheld device, rather than one you simply prod with a finger.

Initial setup is done in conjunction with an Android/iOS app. This itself is fairly intuitive, guiding you through the process of establishing commands for your different hardware. Typical uses will be rotating it right or left to turn volume up or down. Similarly, when the Spin Remote is face down on a surface, those motions become on or off. The underside has a trackpad for swipe commands (left/right/up/down). Cleverly, it realigns itself regardless of how it is picked up.

In use, it's all very sci-fi and rather cool. Twisting your hand about to operate your TV is strange at first, but the learning curve is far from steep. You'll likely master it quickly – the question is whether you can persuade other household members to do the same. A bigger issue is whether it has the flexibility to marshall a fully-fledged AV setup. IR learning functionality is offered, but you'll need to remember the exact commands you've chosen.



Control for Philips Hue is integrated into the Spin Remote app

Playlist...

Team *HCC* spins up its disc picks of the month

The Revenant (Ultra HD BD)



The award-winning survival thriller cuts a spectacular figure in 4K and has become an instant standard-bearer for the new disc format.

Dark Souls III (PS4/Xbox One/PC)

FromSoftware's third (and final?) visit to Lothric may not reinvent the wheel, but it's still a terrifyingly good game that reminds you how much fun dying can be...



Intruders (Region B BD)



Gripping home invasion thriller gives the tried-and-tested fright formula a surprising twist.

Dissent & Disorder... (Region B BD/R2 DVD)



The BFI's epic boxset celebrating director Alan Clarke's work for the BBC between 1969 and 1989 is a treasure trove of televisual treats.

The Angry Red Planet (R2 DVD)



Enjoy this 1959 sci-fi flick's angry red spider-rat-thing whenever you want with this overdue UK release.

At the 'plex...

Heading out to see a flick?
Catch these this month

Ghostbusters

July 15: Filmmaker Paul Feig's gender-switched reboot of the classic 1984 supernatural comedy will have to go some way to turn around the naysayers. But after last year's side-splitting *Spy*, we think Feig might just manage it...

Star Trek Beyond

July 22: Former *The Fast and the Furious* helmer Justin Lin replaces JJ Abrams behind the camera on this third entry in the reborn sci-fi series. This time around Kirk and the gang are stranded on a hostile planet in uncharted space.

Jason Bourne

July 29: Having sat out 2012's *The Bourne Legacy*, Matt Damon returns (along with director Paul Greengrass) for this latest instalment in the spy series. Plot details are still being kept under wraps, but we expect it will involve Bourne having to punch people.

Panasonic turns off TV

Japanese AV giant pulls the plug on LCD TV panel production

Panasonic will stop producing LCD TV panels in September. The company has confirmed that it's mothballing production lines at its Himeji LCD factory in western Japan, citing cost reduction and restructuring measures.

The Himeji facility is the brand's last remaining TV panel plant. It began production in 2010 but has never turned a profit. The news of its plight, while not particularly surprising, effectively marks the end of an era for the Japanese giant that once invested huge sums (principally to make plasma TVs) in panel production. In 2005, the company opened the world's largest plasma production facility in Amagasaki, which was able to produce 125,000 panels a month. Panasonic eventually retreated from the plasma display business in 2013, signalling the end of the display technology.

Long-term plans

However, a Panasonic spokesman in Osaka City told *HCC* that screens coming out of Himeji were not in fact being produced for use in Panasonic TVs at all. 'The LCD panels manufactured at the Himeji facility have not been used in Panasonic TVs for some time, they were made on behalf of partner companies. As Panasonic's own TV business did not use the panels produced at the facility, this decision has no effect whatsoever on our long-term TV plans.'

Nor does the cessation of panel production mean the factory is being shuttered. Indeed, *HCC* was told unequivocally that business continues, away from TV. 'The Himeji facility will not cease production of LCD panels,' declared our anonymous spokesman.

'It will shift production towards manufacturing LCD panels for use in non-TV component applications, such as automotive and industrial use.'

What about OLED?

Regular readers may recall that Panasonic also used its Himeji facility to produce the first prototype of a screen-printed OLED panel technology. This new type of self-emissive organic display was touted by the company as a potential breakthrough in OLED mass production. So has the LCD shutdown scuppered any future OLED plans? Apparently not.

Explained Panasonic: 'We merged our OLED research and development function with that of Sony to form JOLED. Panasonic continues to own a five per cent stake in JOLED with an aim to further develop OLED panels...'

Indeed, the brand is quick to dispel any notion that the move is anything other than pragmatic. 'The Panasonic TV business has for many years pursued a multi-procurement strategy wherein it has sought out the very best panels from multiple suppliers based on performance and cost,' we were told. 'Using our own image processing and backlight technologies we've been able to get the very best out of third-party panels and this has been recognised by TV reviewers as consistently delivering

great picture quality.' The brand sites critical success for all three display technologies – plasma, OLED and LCD – as vindication of its approach. 'We believe we are the first TV manufacturer to achieve this,' it said.



Panasonic's Himeji plant will no longer produce LCD TV panels

Speaker mainstay revamped

Dynaudio refreshes its celebrated Contour range with four new models

Danish loudspeaker manufacturer Dynaudio has established a strong reputation among audiophiles – one that it hopes will be strengthened further with the arrival of the latest incarnation of its Contour range.

A mainstay of Dynaudio's portfolio since 1989, the Contour range now consists of four revamped models. Pictured here are the Contour 20 standmount (£3,750/pr), the Contour 30 floorstander (£5,750/pr) and a second, larger floorstander, the Contour 60 (£7,500/pr). The fourth model (not shown) is the Contour 25C, a dedicated centre speaker (£2,750).

Among the enhancements in the re-engineered speakers are new drive units and aluminium voice coils, improved internal wiring, and multilayered enclosure designs that aim to reduce resonances. 'Together, it adds up to a substantially improved speaker with a lot more power than the previous Contour range,' says Dynaudio.

The Contour models are available in a choice of Walnut Satin, White Oak Satin, Piano Black and Piano White finishes. Rosewood High Gloss and Bubinga High Gloss are available on special order. www.dynaudio.com

The Contour range includes two floorstanding speakers



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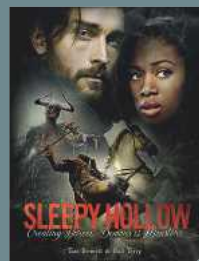
Ghostbusters: Life-size Slimer Replica



NECA is expanding its lineup of *Ghostbusters* merchandise this August with the

release of this life-size replica of everyone's favourite non-terminal repeating phantasm. Recreated from the original movie molds, Slimer is made from foam rubber and latex, stands three feet high and will set you back around \$700!

Sleepy Hollow: Creating Heroes, Demons & Monsters



This visual companion to cult TV series *Sleepy Hollow* devotes its 176 pages to exploring

the creation of the show's costumes, locations and creepy creatures. Packed with behind-the-scenes photos and production art, each of the book's entries also features insightful commentary from the talented folks involved in bringing it all to the small screen. Available now for around £20.

Lament Configuration Puzzle Cube



Mezco Toyz has revealed that it will be releasing a Rubik's Cube-style puzzle

box based on the iconic Lament Configuration from the *Hellraiser* films. Due for release in October priced around \$14, this prop-sized puzzle cube is sure to bedevil users with its promise of 43,252,003,274,489,856,000 possible combinations!

Ultra HD feels at home...

...but 4K broadcasters demand standards for High Dynamic Range

Ultra HD TVs now account for over half the UK telly market when it comes to value, market analyst GfK has announced. Speaking at an industry conference on UHD TV organised by satellite operator SES, spokesman Nick Simon predicted nearly three million 4K screens will be sold in the UK over the next 12 months.

'UHD is now at the very heart of our TV market,' he says. 'According to our data, there are over 350 models now available. Two years ago, the average price for 4K screens was £2,000-£2,500. Between January 2015 to April 2016, there's been a 29 per cent price drop. The sales figures are a gift to anyone who wants to broadcast in UHD.'

But despite the sales boom, broadcasters continue to prevaricate because standards are still undecided – and the biggest sticking point is HDR (High Dynamic Range).

Thomas Wrede, VP of Reception Systems at Astra satellite operator SES, is responsible for the technical aspects of the UHD market introduction. 'As an industry, we need to get going,' he told an audience of TV insiders. 'We need to get broadcast standards ready and finalised.'

Wrede adds that the growing success of OTT services like Netflix are piling on the pressure. Unlike traditional broadcasters, these services have total control of the delivery chain, from content packaging through broadcast to the receiving client itself.

Standardisation issues

Currently SES transmits 33 unique UHD channels through ten satellite operators to Europe, North American and Latin America. 'We estimate that there are now 29 million households that have a UHD TV set,' Wrede says. 'We carry more UHD than any other satellite operator.' The channels are broadcast via 24 UHD transport streams, the latest being a test channel for HDR transmissions.

Wrede admits that even his own research and development



Thomas Wrede: 'We're looking at HDR, testing the various technology concepts, but we're getting a little confused'

teams are finding progress with standardisation hard going. 'We are busy looking at HDR, testing the various technology

concepts, but, yes, we're getting a little confused.'

Wrede says all current proposals, from the static metadata of HDR 10 to proprietary dynamic metadata solutions from Dolby and Technicolor, are impressive but some systems have distinct advantages within the broadcasting environment.

Aspects under debate include the practicality of dynamic metadata, backwards compatibility with non-HDR screens (broadcasters don't want to simulcast in the way they currently have to with SD and HD TV), and the licensing aspects of preferred technologies.

Practical solutions

While there has been much speculation about the benefits of dynamic metadata via Dolby Vision, Matthew Goldman, SVP of technology for Ericsson and board member of industry body SMPTE, insists broadcasters should stick with HDR 10.

'Metadata is added at the end of the content creation process,' he says. 'That's fine when you control the distribution through to the device, but for broadcast TV there is no end of production. Content can be passed through multiple distribution channels, to networked affiliates and so on. At any point the dynamic metadata layer can be stripped away.'

Goldman goes further, advocating that 1080p with HDR 10 is the most practical broadcast solution. 'Viewers perceive HDR images to be sharper because of the improved contrast,' he says. 'That's because the human visual system resolves contrast as added resolution. And remember if you view your 4K screen at more than 1.5 picture heights back, then you're only seeing HD anyway. The viewing distance for HD is three picture heights back from the display.'

Goldman also reveals that viewers surveyed tend to prefer 1080p HDR over 2160p with SDR, when content is viewed from the same position.

The UK's biggest premium TV provider, Sky, has said it will start 4K services over the next few months, but HCC has been told these will not include any HDR services, just 2160p resolution. HDR will be a future 'Phase 2' introduction.



UHD Blu-ray has embraced HDR, but Sky is leaving it to 'Phase 2' of its 4K rollout

This month's top 10 news stories in handy, bite-sized chunks...



1 3D films beneficial for kids

3D movies provide a 'more emotionally engaging experience' for kids than their 2D counterparts, according to recent research. The 'Kids on 3D' study, led by behavioural scientist Patrick Fagan, involved 63 nippers completing tests before and after watching a 20-minute clip from Disney's *The Jungle Book* in either RealD 3D or 2D. Other notable results include an improvement in 'cognitive processing' that is almost three times greater after watching 3D rather than 2D, as well as a 17 per cent higher maximum recorded heart rate in those viewing the stereoscopic footage.

2 Universal's big night out

Universal Pictures UK was the main winner at this year's re-christened British Association of Screen Entertainment Awards (formerly the British Video Association Awards). The company nabbed seven gongs – including Best Distributor – at the ceremony, which aims to 'celebrate the skill and innovation used in marketing and promotions across the home entertainment industry.'

3 UHD Xbox One on the way...

Microsoft has announced an updated version of its Xbox One console. Dubbed the Xbox One S, it is 40 per cent smaller than the Xbox One and supports 4K video content with HDR. A 2TB model has been announced for release in the UK this August, priced £350.

4 ...as is a PlayStation 4K

Not to be outdone, Sony has confirmed that it is hard at work on a new, more powerful version of its PS4 console. Codenamed 'Neo', the updated console will support 4K and will 'sit alongside and complement' the original PS4. Pricing and release info are still TBA.

5 LG finally catches up with ITV

LG has launched Freeview Play on its WebOS 3.0 Smart TV platform with an update made available in June. Among other things, this marks the first time that ITV Hub and All 4 have been available as part of LG's smart TV content lineup.

6 Samsung to bypass OLED?

Korea's *ET News* claims that Samsung is planning to ignore OLED TVs in favour of QLED, an upgrade in quantum dot screen technology. The newspaper says it has spoken to a 'high-ranking' source at Samsung Electronics who cited problems regarding age and production costs where OLED is concerned as some of the reasons behind the decision.

7 Sky overhauls Movies

Sky Movies is turning into Sky Cinema this July. Yet this is no simple rebrand, instead the satcaster is promising an even larger library of films as well as significant improvements in HD picture and sound quality from the service.

8 Acer preps 4K projector

Acer has announced its first native 4K resolution home cinema projector, the VP9800. Due for release at the end of the year, the projector doesn't support HDR, but it does boast a new Texas Instruments 4K DMD processor coupled with the brand's ColourPurity image technology. The VP9800 also promises a whisper-quiet running noise of 20dB.

9 Acoustic panes

San Diego-based audio tech company Turtle Beach Corporation claims to have developed a new approach to speaker technology, dubbed HyperSound Glass, that can deliver a 3D-like audio experience via a 'highly directional narrow beam of audio' from a transparent pane of glass. We're not sure how all that glass will help with tricky room reflections, though...

10 Even greater Scott!

The Empire Live event running at The O2 in London from September 23-25 will be holding the first UK cinema screening of the extended cut of Ridley Scott's superb sci-fi drama *The Martian*. Of course, if you can't wait that long then you might be interested to discover that *The Martian: Extended Edition* is already available to import on Blu-ray and Ultra HD Blu-ray from the US.



Premiere...

What's happening in the world of TV and films...

More *Sicario* coming



Last year's superb crime-thriller *Sicario* is getting a sequel. With Emily Blunt tied up playing Mary Poppins for Walt Disney, *Soldado* (Spanish for 'soldier') will instead shift the focus to Benicio del Toro's secretive government operative.

Abracadabra...

Sacha Baron Cohen is set to star in a bigscreen outing for comic strip superhero Mandrake the Magician. Could this be the first step towards a new shared cinematic universe featuring Mandrake's *Defenders of the Universe* chums Flash Gordon and The Phantom?

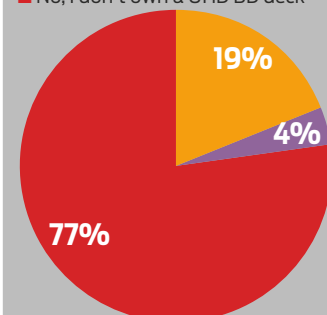
Ocean-going girls

It looks like *Ghostbusters* won't be the only film getting an all-female reboot. Sandra Bullock, Elizabeth Banks, Helena Bonham Carter, Cate Blanchett and Mindy Kaling have all signed on to star in a new version of *Ocean's Eleven*. However, there will be at least one man involved, as *The Hunger Games* director Gary Ross is set to shoot the heist caper.

We asked...

Do you own an Ultra HD Blu-ray player – and if so, which model?

- Yes, the Panasonic DMP-UB900
- Yes, the Samsung UBD-K8500
- No, I don't own a UHD BD deck



Results from www.homecinemachoice.com
Go online for more polling action

Clash of the titans

Batman v Superman: Dawn of Justice → Warner Bros.
→ Ultra HD BD, Blu-ray, 3D Blu-ray & DVD

Get ready for a cinematic slugfest when Zack Snyder's blockbuster flick pitting comic book icons Batman and Superman against each other flies onto Ultra HD BD, Blu-ray (2D and 3D) and DVD on August 1. As well as the original cut screened in cinemas, fans can look forward to an extended edit offering around 30 minutes of previously unseen footage. Better still, both versions incorporate Dolby Atmos soundtracks. As for extras, the 1080p platters (one is bundled with the 4K release) pack 11 *Making of...* featurettes exploring how the spectacular brawl was brought to the bigscreen.





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Face to Face

Topics of discussion on the HCC Facebook page

On lossy audio on Kung Fu Panda 3...



Very poor. Hope the US release is lossless – so glad I have a multi-region player!
Fondriest Steve

Not ...*Age of Ultron* all over again!
Lee Regan

Shame – the first two have classic soundmixes.
David Ives

What you're watching on your home cinema...



Gods of Egypt in Ultra HD and *Independence Day* – extended version – in UHD, too.

Paul Lissemore

Wayward Pines: Season One boxset. Getting ready for the start of Season 2 next week.

Alex Russell

Everest – a good show.

Jeffrey McCann

The Living Dead at Manchester Morgue.

Alan Hoare



The Mask of Zorro, Limitless and The Adjustment Bureau.
Chris Lally

Just acquired a couple of cheap Blu-rays I'll be watching: Clive Owen in *The International* and Liam Neeson in *Non-Stop*.
Brett Gidlow

On Oblivion, Lone Survivor and Lucy hitting 4K Blu

Can't wait to see Scarlet Johansson in 4K!
Mark Edwards

No IMAX ratio for *Oblivion* is a missed opportunity.
Mike Wadkins



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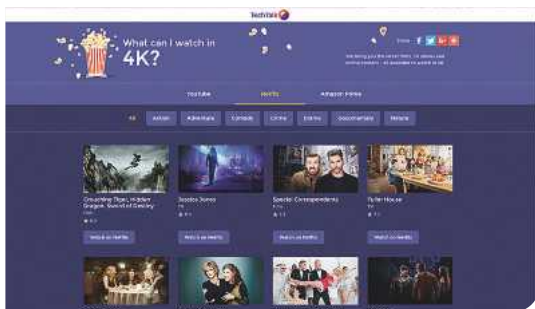
Back of the 'net

Trailers, technology and more to check out on the web



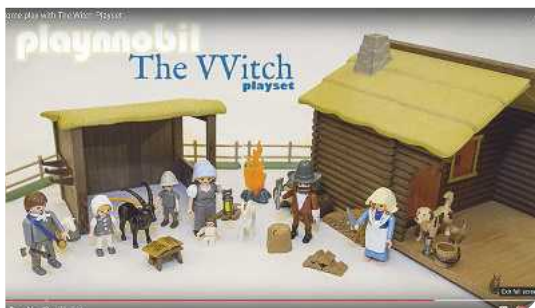
PSB aims high

Canadian speaker brand PSB has crafted its first set of Dolby Atmos-enabled upfiring speakers, as part of its Imagine line – and they're coming to UK retailers. Check out PSB's website for specifications, design principles and an intro video from company founder/designer Paul Barton.
bit.ly/1XqZ7zT



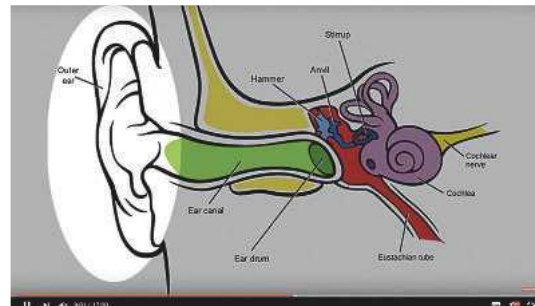
On the hunt for 4K content

Designed to give the 'top picks for those who want top pixels', this 4K content finder – created by the Tech Talk team at Currys PC world – trawls Netflix, Amazon Prime and YouTube to provide a list of UHD material, with genre tabs allowing you to fine-tune the selection.
bit.ly/1WveEyy



Horror masterpiece is child's play

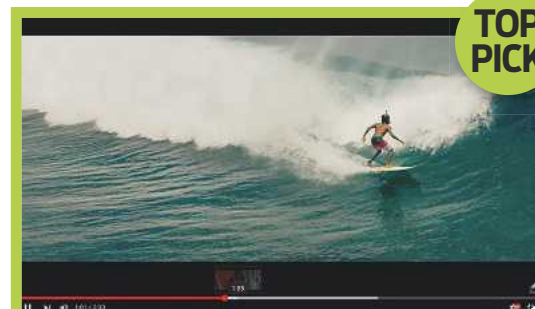
Robert Eggers' period shocker *The Witch* (reviewed on p106) is one of the most freaky horror flicks we've seen in years, which only makes this spoof advert for a Playmobile-style playset based on the film so hilariously wrong. And we'd happily sell our souls for our very own Black Philip action figure...
YouTu.be/r4OXikot7OW



MQA 101

Dutch Audio evangelist Hans Beekhuizen hosts this relaxed introduction to Meridian's small-file-but-hi-res MQA format, starting off with a refresher course about how the human ear works, before moving on to the sonic benefits of 192kHz/24-bit sampling rates.

YouTu.be/r_wxRGiBoJg



Surf's up!

Hitting UK cinemas in August, just about the time you're thinking of going for a refreshing dip in the sea, comes *The Shallows*. Judging from Sony's trailer, it's an intriguing mix of *Jaws* and *Castaway*, with director Jaume Collet-Serra stranding Blake Lively's surfer in shark-infested water.

YouTu.be/EgdXlISuB70



On a path to Blu-ray glory

Eureka!'s Masters of Cinema label is releasing Stanley Kubrick's 1957 war flick *Paths of Glory* on Blu-ray on September 19, and is hosting the original trailer on its YouTube channel by way of a teaser. 'The most explosive motion picture in 25 years!' screams the blurb.

YouTu.be/y78MRu4l7Hc

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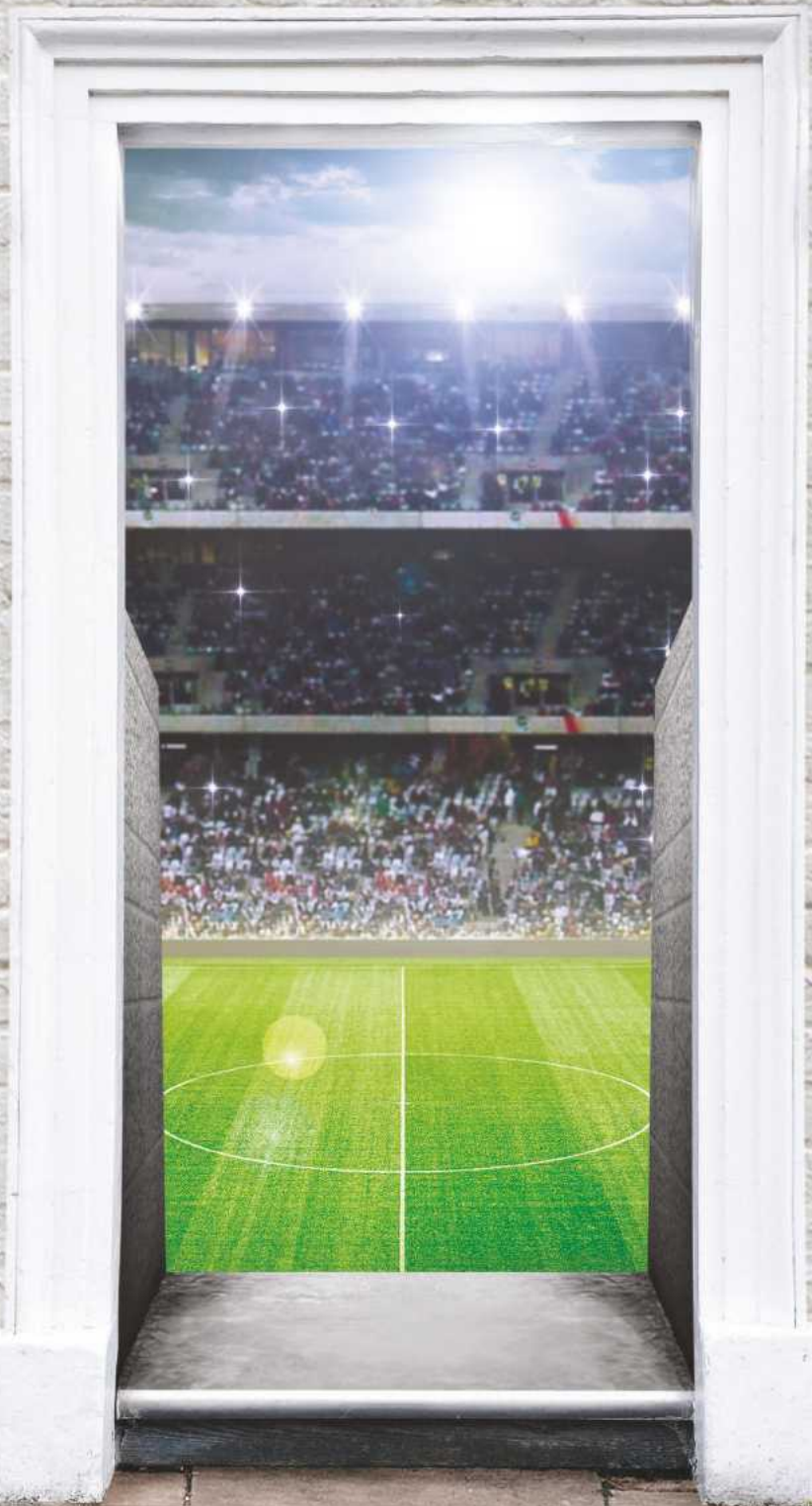
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Team HCC rides the airwaves and broadband streams to unearth the TV programmes that want to give your movie collection a run for its money. Warning: contains *Game of Thrones*

WE'VE COME A long way since the days of four terrestrial channels, one of which was always showing horse racing. Today's AV buff can look to their TV for quality content, with traditional broadcasters and streaming companies proffering thousands of hours of premium programming, and drawing on a talent pool that includes Hollywood stars and producers.

In fact, there's almost too much television these days. A plethora of channels and networks, combined with a binge-watch model of pushing content out there rather than tying it to a specific timeslot, has resulted in an overload of choice. Put bluntly, it can sometimes be hard to decide which of the New Big TV Shows to watch. So here's a bunch to whet your appetite...



Outlander

While the title and Scotland setting conjures up memories of 1980s fantasy flick *Highlander*, this Starz TV series (based on Diana Gabaldon's series of novels) has a lot more going for it than just men waving swords around. Its initial time-travel premise, where a WWII era British army nurse (Caitriona Balfe) is thrust back in time to 1743 via some handily magical standing stones, is the jumping off point to a gritty, violent, layered romance/drama, told (refreshingly) from a female perspective.

Intelligent TV, and gorgeous to look at too, whether on Amazon Prime (its exclusive UK home) or on Sony Pictures' superb Blu-ray boxset (which features DTS-HD MA 5.1 audio). The second season (which has recently been made available on Amazon) is currently scheduled for an October BD release.



The 100

Some may have been put off watching *The 100* because it features a mainly teen cast and has aired on yooof-oriented channel E4. Furthermore, there are no big Hollywood actors here to lure you. However, there's plenty to enjoy from this original sci-fi, which imagines a post-apocalyptic future where 100 young prisoners are sent back to the surface of a nuclear war-ravaged Earth to see if it is once again habitable. Similarly to '90s cult smash *Buffy The Vampire Slayer*, the show – over its current three seasons – has morphed from something slightly small in scale into a much bigger-feeling adventure, blessed with superior writing and dense plotting. Settle down for a boxset marathon with Warner's region-free Blu-ray releases, which bring out the best in the digital photography.



Gotham

Bat-fans growing tired of reacquainting themselves with yet another cinematic iteration of the Caped Crusader can turn their attentions instead to this prequel series that focuses on Commissioner Gordon, a young Bruce Wayne, and Gotham City's parcel of rogues (Penguin, Catwoman, Azrael...).

Detailed production design means *Gotham* is always startling to look at – although nowhere near as expensive to make as *Batman v Superman*. Despite the familiar characters, it feels like a fresh addition to the Batman canon, while the likes of Michael Chiklis and Sean Pertwee bring gravitas to the cast.

The Fox show has run for two seasons so far in its native US, with a third due this Autumn; in the UK it airs on Channel 5, with the first season available on Netflix.



Rick and Morty

Evolving from an earlier *Back to the Future* pastiche created for an L.A. short film festival, this 'toon (shown in the US on upstart network Adult Swim) mixes sci-fi concepts with family sitcom tropes and lashings of grown-up/puerile humour – imagine *Futurama* with racier jokes, as elderly booze-soaked scientist Rick drags his grandson Morty through various alternate universes/fantasy worlds in search of... well, whatever crazy thing co-creators Justin Roiland and Dan Harmon can rustle up.

Currently prepping for a third season in its homeland, the only thing stopping animation fans enjoying *Rick and Morty* is its UK distribution. Season One was/is showing on Fox HD, but there are no UK disc outings. Track down US BD releases, though, and you'll find Dolby TrueHD mixes are on the menu.

Fargo

Nearly 20 years after the Coen brothers movie of the same name, US network FX broadcast this 10-episode series that channels the snow-bound eeriness and themes of its predecessor but with new characters and plot. A curious idea, but a good one, and helped by a talented cast including Billy Bob Thornton as outlaw Lorne Malvo and Martin Freeman as wimpy Lester Nygaard.

But where could the show go after its rave-reviewed first season? For the second run, the name remained but with a new cast and setting (1979 rather than 2006), and another murder mystery unravelled. Equally as watchable as Season One, it has us looking forward to the next one.

Fargo airs live on Channel 4 and is available on Amazon Prime. Annoyingly, S1 got a BD release, but S2 was DVD only.



11.22.63

This eight-part thriller debuted on Hulu in the US earlier this year, recently ran on the Fox UK channel and is available on catchup. Adapted from a novel by Stephen King, it focuses on Jake (James Franco on excellent form), a man who discovers a time portal from the modern day back to 1961 and uses it to try to halt the assassination of JFK – a job that involves living in '60s America for two years.

Easily one of the best King adaptations, this quirky yet sometimes gruesome series gets off to a flying start in its opening two episodes before slowing the pace down as Jake settles into his assumed life. Shot in the on-trend 2.0:1 ratio, image quality on Fox UK isn't the best, so you may want to wait for a UK BD release arriving on August 15th.



Marco Polo: Netflix's first show to be streamed in HDR



Marco Polo

This massive-budget historical drama, focusing on the famous explorer's time in the court of Mongolian leader Khublai Khan (in its first season anyway, perhaps future seasons may shift the action back to his native Italy) has become a jewel in Netflix's crown – it was the first production chosen by the streaming giant to be made available in HDR.

The ten episodes of Season One are therefore well worth investigating both from a technical viewpoint – the HDR imagery (also streamed in native 4K) works wonders with the show's opulent production and lighting design – and as a reasonably entertaining period yarn, although it's perhaps not the most thrill-a-minute TV show around.

To get it, you'll need a four-screen Netflix sub (£8.99 a month) plus an HDR TV with onboard Netflix client. But don't be surprised if your set isn't yet able to play *Marco Polo* in HDR – Netflix is in the middle of rolling out firmware support to brands.

Watch this if you like: Getting the best from your new flatscreen, costume epics.



Daredevil

Writer Drew Goddard (*The Martian*, *Cloverfield*) brings a Hollywood sensibility to this superior show created exclusively for Netflix. Based upon the Marvel comic book series, it features Charlie Cox as blind (but with otherwise heightened senses) vigilante Daredevil, meting out justice on the mean streets of New York's Hell's Kitchen while bumping into the likes of Elektra and the Punisher and setting the wheels in motion for an eventual *Defenders* series down the line.

There was a risk that *Daredevil* could have become by-the-numbers fare, secondary in quality to Marvel's cinematic output, but thankfully that's not the case. This is everything fans wanted – a gritty, engaging drama that makes the most of the story potential granted by its two 13-episode runs (so far). And the 4K imagery and surround mixes are excellent, while HDR versions are on the way.

Game of Thrones

HBO's mega-hit has hoovered up awards, ratings and legions of fans – not all of whom have read the source material, the series of fantasy novels by George R.R. Martin.

A sprawling sword-n-sorcery epic now up to its sixth season (controversially leaving Martin to play catchup with his books), *Game of Thrones* is perhaps the most ambitious TV show around, with current budgets apparently running at around \$10m per episode. Yet its appeal comes not just

from all that money on screen – throughout its life, *GoT* has weaved gripping tales of royal power struggles, bloody battles and murder, with the odd dragon thrown in for good measure. And to top it off, if you're prepared to wait instead of catching its airings on Sky Atlantic, the Blu-ray releases feature Dolby Atmos soundmixes.

Watch this if you like: *The Lord of The Rings*, mythical beasts, Dolby Atmos



Peaky Blinders

With the BBC recently ordering fourth and fifth series of this hit period crime drama now's a good time to catch up on the first three – and with each series including just six hour-long episodes, you could rattle through them in a weekend.

Why would you want to? Well, *Peaky Blinders* is hugely addictive, without an inch of flab slowing down its tale of the eponymous street gang making a name for itself in post-WWI Birmingham and beyond. *Eastern Promises* scribe Steven Knight is on script-writing duty, Cillian Murphy, Sam Neill and Tinseltown heavyweight Tom Hardy (from Season Two) are amongst the cast, and there's cinematography and set design that wouldn't look out of place in the multiplex.

All three series have been released by the Beeb on Blu-ray in double-disc sets, or can be purchased digitally from the BBC Store; the first series is also available on Netflix.



Mr Robot

Technophile thriller series where introverted computer genius Elliot (a bug-eyed Rami Malek) complements his day job at a cyber security firm with a sideline in online vigilantism, using his considerable techie skills to hack people's personal lives and bring them to justice. And then he's approached by über-hacker Mr Robot (a wild-eyed Christian Slater) to target bigger and better things...

Available via Amazon Prime – or on Universal's great-looking Blu-ray boxset – *Mr Robot*'s first season offers 10 episodes of quirky, conspiracy-filled drama, aided by artful direction and assured performances. Most importantly, it is almost completely unpredictable – see it before someone spoils it for you, and you'll be ready for when Season Two starts showing on Amazon very soon.



The Night Manager

This co-production between the BBC and US network AMC hit UK screens in February this year, grabbing more than 10 million viewers. Adapted from John Le Carré's excellent 1993 spy novel, it casts Tom Hiddleston as the espionage operative investigating Hugh Laurie's international arms dealer. Only it's a lot more complex and intrigue-filled than that – six hours of masterful TV making.

No longer available on BBC's iPlayer, you can buy *The Night Manager* from the BBC Store, cue it up on Amazon or iTunes, or opt for the Blu-ray boxset.

Oddly, considering the source material, a second season has been rumoured. If that doesn't come to pass, expect someone at the BBC to be reading through Le Carré's back catalogue in search of another hit.



American Crime Story: The People v O.J. Simpson

The courtroom drama has long been a TV staple, but few have been as engrossing as this first season of FX's *American Crime Story* project, taking the 1994/95 murder trial of O.J. Simpson as its subject matter. It's perhaps odd to sit down to 10 episodes of legal machinations when (chances are) you already know the outcome, but the experience is surprisingly rewarding, particularly if all you remember of the case is *that* black glove. The show was broadcast on BBC Two earlier this year, and is now available via Amazon and Apple's iTunes, with a DVD release coming in September.



Vikings

Beards! Longships! Raiding parties! History Channel's rollicking historical drama has it all, heading back to the Dark Ages for its epic story concerning Viking ruler Ragnar Lothbrok (Travis Fimmel) and his jaunts across the North Sea to ravage England. The brainchild of *The Tudors* creator Michael Hirst, *Vikings* takes fewer liberties with historical fact than that show, basing much of its story on contemporary records and secondary sources, although that hasn't stopped some people grumbling about apparent inconsistencies. We say ignore all that: this is delightfully uncomplicated popcorn fodder – catch the first trio of seasons on BD (with thumping DTS-HD MA soundmixes) or grab all four (the most recent upping the episode count from 10 to 20) on Amazon Video. A further fifth season has also been commissioned.



Outcast

Not to be confused with 2012 BBC sci-fi *Outcasts*, this recent addition to Fox's UK channel turns the same-name comic series from Robert Kirkman (also responsible for *The Walking Dead*) into a 10-part supernatural frightener. Patrick Fugit and Philip Glenister top-line the cast, as a man whose mother was demonically possessed and an evangelical priest respectively, but the star of the show is perhaps its penchant for no-holds barred horror – if modern scare-flicks aren't floating your boat, this just might.

US cable network Cinemax requested a second season before the first had barely bedded in. Admittedly, Team HCC is currently hiding behind its sofa midway through Season One, but we're already certain we'll come back for more. No Blu-ray release has been confirmed yet.



The Man in the High Castle

Philip K Dick's 1962 alternate history novel was finally brought to screens by Amazon in 2015, around the time it sought to prove it could take on rival Netflix when it came to original series. And it succeeded. Lensed in Ultra HD and with big-budget trappings, this is a feast for your peepers, while the story will warp your brain, centring on a '60s America living under Nazi and Japanese rule following an Axis victory in World War II, and members of the resistance who think an alternate reality might just exist.

Fast-paced and laced with plenty of historical references, this is must-see TV – annoying, then, that it's currently unavailable anywhere outside of Amazon's streaming platform.

Penny Dreadful

Sky Atlantic and Showtime teamed up in 2014 to launch this serial period romp that – in the tradition of Alan Moore's *League of Extraordinary Gentlemen* graphic novels – fills its cast list with well-known literary characters (including Dorian Gray, Dr Jekyll, Victor Frankenstein and Count Dracula) and lets them run riot in late Victorian London. It's rich, opulent stuff, with lashings of gore, excellent VFX and plenty of Gothic supernatural silliness, bolstered by cinematic HD visuals. And Bond fans will dig the appearance of Timothy Dalton and Eva Green, plus Sam Mendes in the producer's chair.

Penny Dreadful's first and second seasons are available in Region B Blu-ray boxsets, or via Sky on-demand; the third (which has just run out on Sky) debuts on disc later this year.



American Horror Story

Before *American Crime Story*, producing duo Ryan Murphy and Brad Falchuk launched this horror anthology series, now into its fifth season and showing no signs of stopping. It remains fresh, of course, by changing its settings and characters (but often with recurring cast members) after each 12/13-episode run, so while its debut season featured a story arc focused on a modern-day haunted house, the follow up moved the action to a mental asylum in the 1960s. Featuring 18-rated scares and chills worthy of the title, this is a genre gem. It screens first on Fox in the UK, but 5* has recently begun trawling the back-catalogue and is nearly finished with S2. If that's all too confusing for you, get the Blu-rays instead.

Preacher

After aborted cinema attempts and unfulfilled interest from HBO, DC's well-received 1990s comic series has at last been brought to your telly box by the AMC network (and via Amazon Prime in the UK), with Dominic Cooper in the title role as a preacher with wavering faith who develops some intriguing powers thanks to an other-worldly entity...

So, Superman with a dog collar? Not quite. *Preacher* is dark and not a little disturbing, mixing up religious themes and fantasy elements (one of its principal characters is a vampire...), dumping them in a smalltown America setting, throwing in some tidy action scenes and allowing an undercurrent of macabre humour to run through the whole shebang. One of the oddest shows around – in a good way.



Narcos

One of Netflix's biggest shows, this enthralling 10-part crime thriller is based upon the story of real-life Columbian drug kingpin Pablo Escobar, who was targeted by US law enforcement – and crooked rivals – throughout the 1970s, '80s and '90s. Packed with tracking shots, freeze-frames and a voice-over (from DEA agent Steve Murphy), it can at times feel like you're watching an homage to a Martin Scorsese flick, only with a Latino-infused soundtrack, but those who love *Goodfellas* (and are suffering with withdrawals from *The Wire*), surely won't complain. Netflix's Ultra HD streams and 5.1 audio only add to the show's appeal, but streaming refuseniks can grab Season One on Blu-ray. Binge-watch it and you'll be all set for the second season arriving in September.

BrainDead

A new 13-part CBS series that is available to UK telly addicts via Amazon Prime, *BrainDead* is a laughter-soaked thriller with a touch of David Cronenberg/*Invasion of the Body Snatchers* about it, with junior political staffer Laurel (Mary Elizabeth Winstead) discovering that a swathe of politicians in Washington DC have been infected by brain-eating bugs that have escaped from a recently crashed meteorite.

Naturally, showrunners Robert and Michelle King use this premise to take sly (and not so sly) digs at the current state of US politics, which might make *BrainDead* a little American-centric for some, but if you weren't fazed by the likes of *The West Wing* and *Veep* – and don't get grossed out by burrowing bugs – then this is worth checking out.



Angie Tribeca

Los Angeles detective Angie Tribeca (Rashida Jones) and partner Jay Geils (Hayes MacArthur) deadpan their way through 10 25-minute episodes of police procedural spoofery. As expected, the non-stop barrage of sight gags and word play results in a few duff moments, but this is perhaps the funniest show on TV right now if you grew up watching the movies of David Zucker and classic series *Police Squad!*

Created by comedy partnership Steve and Nancy Walls Carell and with Season Two already announced, *Angie Tribeca* launched on TBS in the US and has been airing on E4 over here, so has been available for on-demand viewing via All 4. Of course, at some point that channel's broadcast rights will end – fingers crossed it jumps to a streaming platform or appears on DVD/Blu-ray ■

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HDR unbound

Dolby's high-spec HDR format is moving from commercial cinemas to domestic setups, in the shape of streaming content and compatible TVs. **Mark Craven** outlines what you need to know

DOLBY VISION IS the format that perhaps you didn't want to arrive. An optional extra of the Ultra HD Blu-ray standard – an add-on to the mandatory HDR 10 iteration – it's currently ruffling tech feathers from the sidelines. Early adopters getting to grips with HDR 10 and seeking out discs to spin on their setups could be forgiven for hoping it goes away, because it very much seems as if a format war is brewing. Such a war usually features heavy artillery on both sides, though: at present Dolby Vision is merely gearing up the troops. But what is it, and why should you care? Read on...

LG's G6 OLED flagship claims an 800-nit peak and Dolby Vision playback support



Trickle-down tech

Unlike HDR 10, a format largely driven by those with home entertainment concerns, Dolby Vision's origins can be easily traced to commercial cinema. Like the tech company's audio innovation Dolby Atmos, Dolby Vision was created for theatrical endeavours, combining two Christie 4K digital cinema projectors to bring state-of-the-art HDR and wide colour imagery to multiplexes. Coupled with Atmos audio and some theatre design specifics, the result is Dolby Cinema. Given a soft launch in the Netherlands in 2014, there are now screens popping up in the US, and one in Barcelona. Yet there are none in the UK beyond Dolby's own Soho Square HQ. We've visited for a few screenings, but not everyone is so lucky.

But as sure as Atmos made a beeline for home cinemas, Dolby Vision is doing the same, albeit in a somewhat watered-down version that doesn't require a double-stack of premium-priced projectors. Instead, Dolby has created its own system on a chip (SoC) that is capable of decoding an incoming Dolby Vision signal (plus HDR 10 from UHD Blu-rays), and can be built into modern display hardware. And now the first such TVs are arriving, courtesy of LG.

Yet before looking at hardware and software, let's look at Dolby Vision itself. How does it differ to HDR 10? In essence, it's about nits, bits and metadata.

Firstly, Dolby proposes employing brighter peak highlights in an HDR signal for a more impactful – but true-to-life – viewing experience. While HDR 10 content is typically tailored to 1,000-nit displays, Dolby suggests we should be aiming for 10,000 nits.



The company is keen to tell you that such levels are perfectly normal in the real world, and that consumers are ready for them; its research team tested viewer preferences for black levels and highlights, and determined that 'a system that could reproduce a range of 0 to 10,000 nits satisfied 90 per cent of viewers asked to pick an ideal range.' In the tech world, however, capable screens are nonexistent, so a lower figure (around 4,000 nits – admittedly still beyond the reach of most hardware) is the current peak mastering level – with 10,000 nits put aside for the future.

Another key difference is bit-depth. Whereas HDR 10 (hence the name) uses 10-bit colour, Dolby Vision, on the other hand, masters content at 12-bit. It can then be delivered in two approaches, one dual-layer, and one single-layer. The former uses a 10-bit base layer and a 2-bit enhancement layer. Single-layer Dolby Vision is a 10-bit signal, using 'content-adaptive quantization technology' to enable carriage of signals at '12-bit fidelity'.

And then there's metadata. Dolby Vision uses what the company describes as 'scene-by-scene optimization', where dynamic metadata handholds a display on a continual basis, mapping the decoded signal to the screen's best ability. This is as opposed to HDR 10's 'static metadata', where, essentially, once the TV is alerted to the presence of an HDR signal, it is left to its own devices when it comes to mapping it to its particular display prowess.

What this all translates to, based upon early viewings, seems to be a more relaxed, nuanced HDR

experience. Demonstration material provided by LG of fantasy flick *Pan* mastered in Dolby Vision features the colour pop, contrast detail and dazzling peaks expected, but with a more balanced, and – ironically – subtle flavour. But it's perhaps too early to definitively report on Dolby Vision's talents. For its part, Dolby boasts that a 'Dolby Vision image will have more detail and accuracy than the HDR 10 version of the same content.'

LG leads the way

If Dolby Vision is on your home cinema roadmap, then LG is your friend. On the display-side, the Korean giant is currently the only UK vendor selling Dolby Vision-enabled TVs, in the shape of its 2016 OLED range – one of which, the 55C6, is reviewed in this issue – and some of its LED sets (the Super UHD models in the 7, 8 and 9 series). The use of OLED is a little bit of a headscratcher, as you might assume that a technology that favours true blacks over bright highlights is not suited to Dolby Vision's high-nit ethos, but LG claims the overall contrast power of OLED is a good fit for the format, and Dolby isn't arguing. TV marque Vizio ships Dolby Vision-enabled LED TVs in the US, and Chinese giant TCL has shown a compatible TV, but don't expect either of these to arrive in the UK soon.

So what of Sony, Samsung and Panasonic? These brands are currently firmly in the HDR 10 camp and have been manufacturing sets to that standard. This may change in the future, but none of the brands have been forthcoming about any plans. ➤

Dolby Vision is the picture element of the company's Dolby Cinemas, which also employ Atmos audio

Dolby's new Vision on film

Major movies released in the high-spec HDR format

Tomorrowland



Dolby Vision debuted in 2015 on Brad Bird's lush-looking sci-fi/fantasy movie, based on, erm, a Disney Theme park attraction.

Independence Day: Resurgence

Fox brings some added pizzazz to its long-awaited sci-fi sequel – where Jeff Goldblum returns but Will Smith doesn't – by releasing it in HDR.

X-Men: Apocalypse

Says director Bryan Singer of the decision to release the latest mutant-fest in Dolby Vision: 'There are many visual sequences in the film that should be seen in the highest-quality form.'

The Conjuring 2



Scare-tastic follow-up featuring paranormal investigators battling a poltergeist in North London, affording plenty of scope for revealing terrifying shadow detail.

Batman v Superman: Dawn of Justice

Zach Snyder claimed earlier this year that if you were seeing his DC Comics superhero blockbuster, Dolby Vision was the way to go: 'Everything's deeper, everything's richer, everything's just pushed to the maximum.'

Zootropolis

Dolby Vision isn't just for live action – Disney mastered its latest animation smash (about a rabbit policeman, natch – see our BD review p96) in the format.



US on-demand platform VUDU (inset) has a growing library of Dolby Vision titles, including *Goodfellas*

When we spoke with Sony earlier this year, we were told: 'HDR 10 is by far the most common standard. We'll keep an eye on developments [around Dolby Vision], but our message just now is HDR 10.'

It's important to note that any current TV cannot simply be firmware upgraded to Dolby Vision support down the line. There are hardware changes required. Home cinema projection, meanwhile, seems to be a long way from Dolby Vision nirvana, with HDR 10 support yet to bed in.

And what of Dolby Vision source hardware? Here, not even LG can help. The two current Ultra HD Blu-ray spinners, from Panasonic and Samsung, support HDR 10 and nothing else, regardless of Dolby Vision's inclusion in the UHD BD specification. Again, over-the-air upgrades won't be possible. LG's absence from the 4K player market could suggest it is biding its time and will launch a Dolby Vision deck – it would make sense, after all, to have a player that it could sell on to its Dolby Vision TV buyers. Yet no such device has been confirmed. But that might not be a problem, considering there's no software either...

California streaming

Owning a Dolby Vision TV means not a lot without content to watch on it. And this is where the situation gets a little murky, as no 4K disc titles have yet been released with a Dolby Vision encode. So, presently, Dolby Vision is a streaming proposition, and material is sparse, particularly if you live in the UK.

Netflix and Amazon are part of the Dolby Vision charge. The former has mastered its *Marco Polo* series (also its first HDR 10 show – see p23) in the format, and more content will follow in 2016, with an aim for 150 hours of material by the year's end. Amazon, meanwhile, is adding Dolby Vision sparkle to the likes of *Bosch* and *Mozart in the Jungle*.

This is all TV material, of course. Home cinema owners will demand domestic Dolby Vision versions of the range of titles (see left) that have been mastered in the format for cinema release. Can these be enjoyed without any 4K Blu-rays? In the US, yes:



streaming/download service VUDU has a growing library of Dolby Vision content, although mostly culled from Warner Bros. Titles (all feature 4K resolution, although Dolby Vision can be used with Full HD content if desired) include *Black Mass*, *Point Break*, *Man of Steel*, *The Conjuring*, *The Man From U.N.C.L.E* and even back-catalogue titles *Goodfellas* and *Watchmen*. More than 100 movies are promised by the end of the year. It's enough to make AV-Holics consider relocating.

And discs will surely arrive if a big enough hardware base is in place. Dolby says it is working with Hollywood studios to incorporate Dolby Vision 'in future UHD Blu-ray discs' and it's not as if the studios themselves aren't already sold by the tech – the Big Six (Universal, Paramount, Sony Pictures, Warner Bros, Disney, Fox) have all released titles theatrically in Dolby Vision.

Two flavours

Perhaps, then, home cinema is boiling down to a two-tier HDR future. With HDR 10 built into the UHD Blu-ray spec it should remain an ever-present in hardware, and other content providers are unlikely to drop it. On top of this, those seeking the most state-of-the-art AV performance can consider investing in Dolby Vision kit, knowing that devices will also play HDR 10 material. Thankfully, for those who fear another ennui-inducing format war, it's not an either/or situation.

How much impact Dolby Vision will have remains to be seen, though. But it certainly looks good... ■

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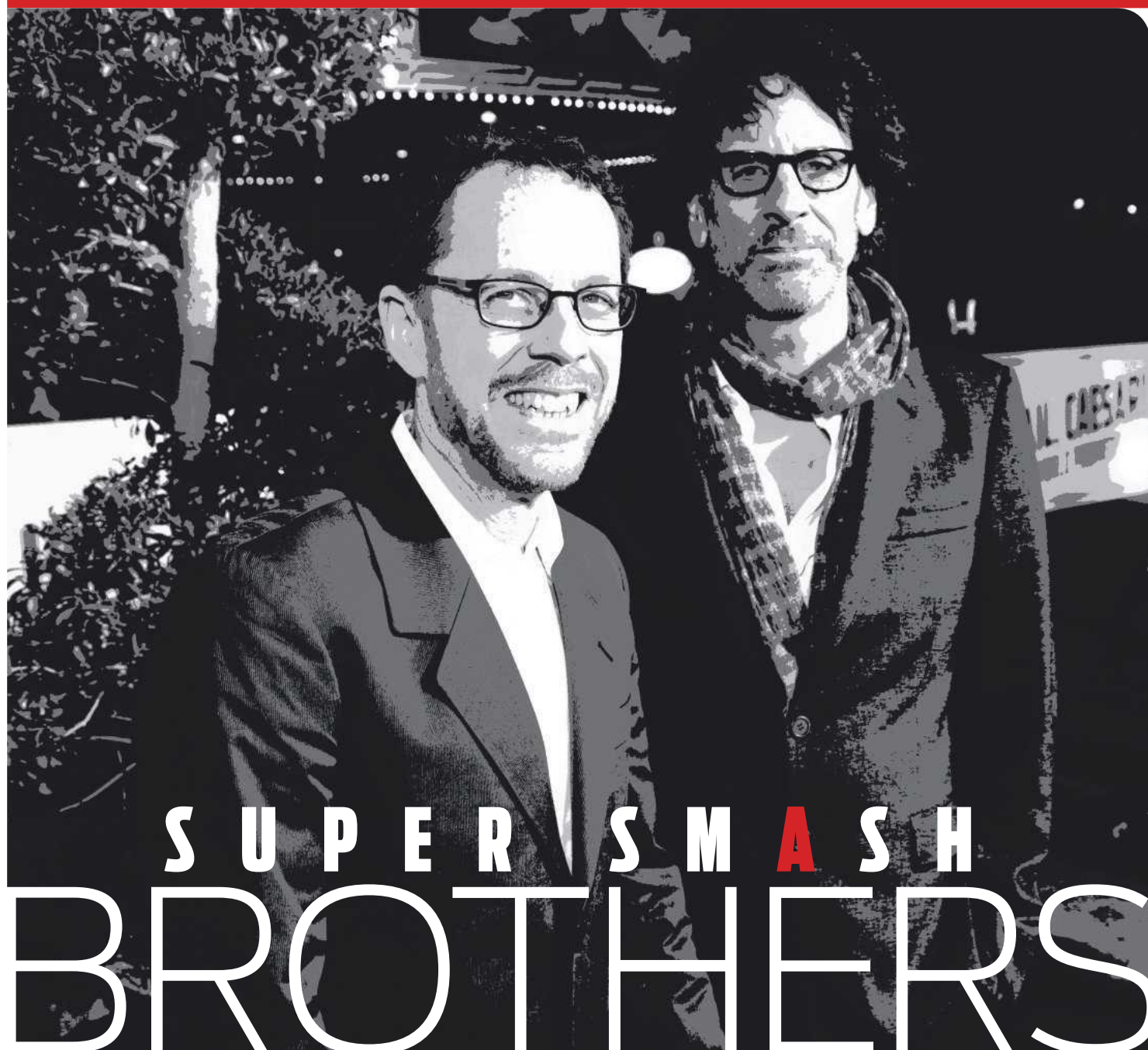
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Writing/directing duo **Joel and Ethan Coen** have been ripping up the Hollywood rulebook for three decades. In their latest flick *Hail, Caesar!*, out this month on Blu-ray, the siblings set their sights on cinema's Golden Age

Scarlett Johansson doing her best impression of Esther Williams



1984'S **BLOOD SIMPLE** marked the Coen brothers out as a filmmaking pair to keep an eye on. Their debut feature proved they could craft an engrossing story on a low budget, mixing eye-catching cinematography with razor-sharp dialogue. And they've repeated the trick again and again in the following years – only with more money to play with.

Numerous awards have come their way and the term 'Coenesque' coined in an attempt to capture the particular flavour of their movies. It seems a fitting word to describe latest project *Hail, Caesar!*, a screwball comedy – replete with Channing Tatum as a dancing sailor – that couldn't really have come from anyone else....

When did you first have the idea for the movie?

Joel Coen: About 15 years ago, around about the time we first started working with George Clooney. We had the idea and we mentioned it to him. He loved it, even though at that time it was little more than a pitch about a 'knuckleheaded' matinee idol who's making a biblical epic with the tantalising working title, *Hail, Caesar!* He then started announcing it as the next movie we were going to make together, even though at that point we didn't really have any intention of making it. It was sort of a thought experiment and then we decided a couple of years ago to sit down and try and write it.

The result is a tribute to the Golden Age of Hollywood...

JC: Yeah, certainly. *Hail, Caesar!* comes out of a love of movies that have come before. Part of the appeal of this story was being able to take little samples from bygone genres. It's part of the fun of doing it.

Was it then a challenge on the set to recreate scenes from so many different genres?

JC: Yes, in a way. Every week it was a different movie. Usually what you can do is, with the art department or the wardrobe department or special effects, it's all geared up to do the same thing over the course of one movie. If it's a Western you have to have wranglers and horses, and the crew and the production facilities are geared towards taking care of the problems you need for that kind of a movie. But if you're doing all of these different things, where one week it's the Western and the next week it's something else then we don't need the wranglers anymore... but have to find a tank and synchronised swimmers and figure out how to light it.

Ethan Coen: These days we have more sophisticated technology; most obviously there's computer-generated stuff to solve production problems, but then [the 1950s] they had the studio system. They had an army of really skilled technicians and craftsmen, which is beyond what you can muster now in a practical way on most movies.

JC: You think, 'Would you have thrived in a system like that?' There was this sort of beautiful machine to make movies, and the fact that these guys who were active then, directors that directed then, would make 40 or 50 movies in a career. That never happens anymore. They'd go from one to the other to the other, so the amount of work you could do was always changing and stimulating. But, on the other hand, it was very different in terms of the control of the studios then, and what we're sort of used to.

We didn't live through that era so we can't be nostalgic about it. The movie is, by design, a rather romanticised version of Hollywood in the 1950s but there's an aspect of how movies were done there, the idea of a factory for making movies. There is an element of not nostalgia but affection and admiration for it.

You show the studio system and touch on the communist witch-hunt in Hollywood. Is that always an aim even with comedy?

EC: Well yes, in a way, it's all a big stew of not entirely sorted out ideas about different things.

JC: Yeah, you may be crediting us with more logical and coherent calculation than actually goes into it.

EC: The political thing is not so much an interest in communism, *per se*. We established this premise: movie star kidnapped off a set for ransom; big studio that has a lot of money invested in it, so they're on the hook for the ransom; this guy who's the sane person in this crazy studio world, who's played by Josh Brolin; and okay, who are the bad guys? Who have kidnapped this person? It would naturally be the people with the ideology that's totally opposed to this good, capitalist person. In 1951, that would be commies, so it comes out of a story imperative, as opposed to a political or philosophical imperative.

Do you shy away from the studio system as it exists today?

EC: Well, we're part of it and we're not. We don't develop scripts at the studio, and we're not subject to their input on basically pretty much anything. We present finished scripts and a budget and a cast to the studio, which is for us kind of a finance thing. Often it is a studio that finances our movies, but that's not unusual. A lot of people work that way with studios. And sometimes our movies are financed outside the studios.

Hollywood on celluloid

Team HCC's favourite films about making films

Singin' in the Rain

What a glorious feeling, indeed. Gene Kelly directs, stars in and choreographs this tap-tastic musical trailing the troubles of silent movie stars faced with 'talkies'

Bowfinger



Supremely funny Steve Martin/Eddie Murphy comedy, with the latter taking on both the role of an arrogant movie star and an idiot who just happens to look like him...

Super 8

JJ Abrams' sci-fi produced by Steven Spielberg following a group of kids making a Super 8 movie and coming into contact with an extra-terrestrial. Stonking soundmix.

Ed Wood

Tim Burton's loving biopic features Johnny Depp as B-movie master Ed Wood, the '50s hack famous for writing and directing galactic turkey *Plan 9 from Outer Space*.



Hail, Caesar! is the fourth collaboration between Clooney and the Coens



Top: Frances McDormand as chain-smoking editor CC Calhoun



Above: Joel and Ethan Coen take a break from shooting, with actors Josh Brolin and George Clooney

Is there a common thread running through all of your films?

EC: Not that we're aware of. I mean, if we were aware of something we were repeating, we'd try to do something different. So, to the extent that there is something in common in our movies, it's in spite of our efforts.

You were nominated for an Oscar for your *Bridge of Spies* script. Does your writing process differ when writing for other directors?

EC: Very much. And with *Bridge of Spies* we were hired to rewrite something that already existed, which is more the norm. We've actually done several writing jobs, and usually they're in that form. And the approach is that when we're hired to do something, you have a mandate to do it a certain way, usually for a certain director, and that's what you do. You're not doing it for yourself. We're not thinking about how we would do it.

JC: You're trying to figure out what the director is looking to do – what he's looking to get in the script and what he wants you to accomplish in the story or in the writing – and serve that, whatever those ideas are... it's a little bit different.

Did you write *Hail, Caesar!* with specific actors in mind?

EC: George Clooney's part was. Josh Brolin, even

though we had done two movies with him, we weren't particularly thinking of him until we finished and looked at that character [fixer Eddie Mannix] and thought, 'Okay, Josh could do this.'

JC: With Scarlett Johansson, no. But we do know Scarlett. Once we came up with the idea of doing the [synchronised] swimming thing, we very much wanted Scarlett to do it, because we thought she would be very funny.

Did all the references in the movie require a lot of research?

EC: There were certain things we knew, not from research, but from a sort of acquaintance with Hollywood history.

But, no, we didn't do research, not until the point when having written the script you want to do very specific research to kind of generally figure out production problems. You see how other movies did certain things, technically. On our part, research consists of that.

Which one of the fake films in *Hail, Caesar!* would you turn into a real flick?

EC: The singing cowboy. Definitely not the water ballet – we had enough of that... ■

Hail, Caesar! is available on Digital HD now and on Blu-ray™ & DVD from 11th July, courtesy of Universal Pictures (UK)



Minor movie delivers major laughs

The Coen brothers cook up an amusing love letter to Hollywood in the 1950s

→ HAIL, CAESAR!

It's the mid-1950s and over at Capitol Pictures, head of production/'fixer' Eddie Mannix (Josh Brolin) is not having the best of days. Not only does he have to deal with the fact that unmarried actress DeeAnna Moran (Scarlett Johansson) is pregnant, but there's also the small matter that leading man Baird Whitlock (George Clooney) has vanished mid-way through shooting on the studio's costly biblical epic *Hail, Caesar!*. And somehow Mannix must sort all of this out without attracting the attention of rival gossip columnists Thora and Thessaly Thacker (both played by Tilda Swinton).

For all of its willingness to engage with differing ideologies (political and religious), *Hail, Caesar!* is easily the slightest film to come from the Coen brothers in a long time. But even if the central story doesn't amount to very much, the zany gags and painstakingly-crafted movie pastiches that adorn the film more than make up for any narrative deficit. Not exactly vintage Coen brothers, but surely the duo's most accessible and funniest movie since *The Big Lebowski*.

Picture: Universal's Blu-ray sports a very appealing 1.85:1-framed 1080p encode that does a flawless job of capturing Roger Deakins' smart cinematography. From the warm colour palette to the detailed



Time for some stargazing?

textures exhibited by the period costumes, rock-solid black levels and finely-resolved native film grain, the disc's imagery never puts a foot wrong.

Audio: *Hail, Caesar!*'s DTS-HD MA 5.1 track is a modest affair that is primarily focused on dialogue and subtle yet convincing ambient effects. That said, Chapter 11's side-splitting song-and-dance number, *No Dames!*, proves that the mix has some pretty serious musical chops.

Extras: All you get are four interesting, if short-lived, featurettes discussing the Coen brothers; cast and characters; production and costume design; and shooting the musical and water ballet sequences.



HCC VERDICT

Hail, Caesar!

→ Universal Pictures → All-region BD
→ £25

WE SAY: A good-looking HD outing for this breezy Hollywood satire

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

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YAMAHA: RX-A1050 seven-channel AV receiver

JVC: RS49 4K eShift projector

SCREEN RESEARCH: 103in Supreme 3 fixed-frame projector screen with acoustically transparent 4K material

KALEIDESCAPE: Cinema One movie server/Blu-ray player

FUTURE AUTOMATION: Universal projector mount

CONTROL 4: Room controller; LCD remote

LUTRON: Lighting control



NICKNAMED 'SIZE ISN'T Everything' by install firm Finite Solutions, this home cinema bolt-hole is a superb example of what can be achieved in a relatively small space. A basement conversion, the original room measured only 1.6m high, so was uninhabitable. To turn the owners' AV dreams into reality required some additional digging.

Cinema hardware culled from Bowers & Wilkins, Yamaha, JVC, Totem Acoustics and Kaleidescape delivers a discrete 5.1 setup with movies on tap and upscaled 4K images. Acoustic foam in the fresh wallwork is provided to isolate sound from the rest of the house – an ultra-thin (20mm) solution was chosen to keep as much of the cinema's precious space as possible. Walls were then covered in a suede stretch fabric, colour-matched to the carpet.

Secret escape

After a 120-hour turnaround, the room was ready for use, with smart LED lighting and automated control adding a touch of flair. We particularly like the in-wall fridge, which makes use of an under-the-stairs space – also where the kit rack is housed, accessible via a suede-covered door. And the owners love it, too, saying it's the secret escape they always hoped for... ■

A. Bring on the wall!

The focal point of the cinema is the 103in Screen Research Supreme 3 fixed-frame screen. Sitting behind it is a trio of Totem Acoustics speakers for the L/C/R channels

B. Let's chill

Space was made for this in-wall refrigerator, meaning there's no need to head upstairs for a mid-movie snack

C. Raise it up

The original height of the basement was a mere 1.6m. Excavation work was undertaken to arrive at a more manageable reach of just over 2m



D. Getting an eShift on

For visuals, the room uses a JVC RS49 projector (the CI iteration of the X500), which uprezzes Full HD sources to 4K via the brand's eShift tech

E. Snug surround sound

Budget and room size means a 5.1 system was specified. Surrounds are mounted on the back wall, as the positioning of the downstairs cupboard (where the AV rack resides) precluded the more traditional side-wall placement

F. Control 4 everyone

This handset links to the room controller (from Control 4) to handle hardware/lighting operation

G, H. Lighting the way

Various LED installations can suit the owners' mood

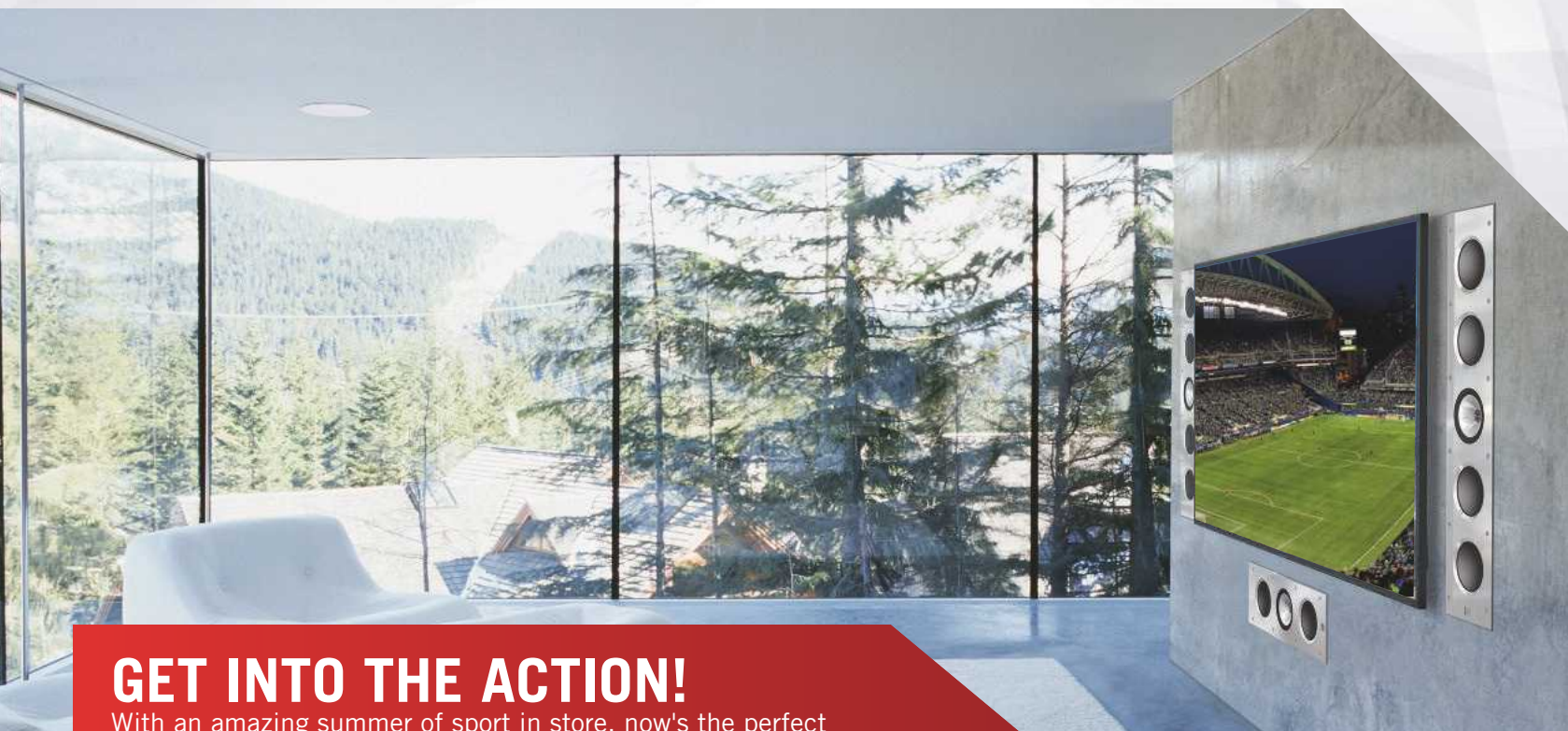
I. Secret sub

The front wall also houses the B&W ISW-4 subwoofer, which uses twin 8in bass drivers





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Aiming high



Trinnov Audio's Altitude32 processor is ready for any 3D sound format you can throw at it, and promises a best-in-class sonic experience. Does it deliver? See p46

HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

All prices quoted are approximate and may have changed

AV INFO

PRODUCT:

55in OLED TV with Dolby Vision/HDR 10

POSITION:

Mid-range in LG's 2016 OLED line, above the flat B6

PEERS:

Samsung UE55KS9000; Panasonic TX-58DX902

1. The Magic Remote combines traditional keys with scrollwheel and onscreen pointer

2. The TV's OLED panel claims 800-nit peak brightness

LG's 55in OLED TV gives LCD-toting rivals plenty to chew on, reckons **John Archer**

LG's dark knight rises

With every passing year OLED's importance to the TV world seems to grow and grow. Its performance keeps improving, LG keeps finding ways of bettering manufacturing yields so it can reduce OLED TV prices, and new video technologies keep appearing that make OLED's trick of enabling every single pixel in its screen to produce its own light look ever more vital.

The extreme light control demands of new high dynamic range (HDR) technology, in particular, seem tailor-made for OLED's charms. So as I started putting LG's first OLED TV of 2016, the 55in OLED55C6, through its paces, my hopes were understandably high. Especially since LG claims that its new models have largely corrected the niggling issues with 2015's nonetheless excellent OLED screens.

The OLED55C6 is – as usual with OLED – a glorious bit of design. For around half of its rear it's barely 3mm thick, and its incredibly slim chassis is given extra glamour by a glinting silver trim around its outer edge. The use of a curved screen further enhances its appearance – although I realise that this feature will also put a few buyers off.

LG is also launching a B6 series of flat TVs for curved haters that will offer pretty similar specifications, except that the B6 models won't support 3D. If you want a flat LG OLED this year that does support 3D, you'll have to spend substantially more for one of the brand's extraordinary-looking E6 models.

Connectivity here is reasonable. There are only three HDMI's, when you'd have expected four, and only two of these supported 4K/HDR playback from my resident Ultra HD Blu-ray players. You get three USBs for playing multimedia or recording from the Freeview HD tuner to USB HDDs, plus the now inevitable wireless and wired network options.

Streaming multimedia stored on networked DLNA-enabled devices is supported, as is access to LG's library of online content. This isn't absolutely the most comprehensive service around, but it covers all most important stuff – namely the 4K and HDR versions of the Amazon Video and Netflix apps, Now TV, Google Play

Movies and TV, plus, via a Freeview Play firmware update that may have gone live by the time you read this, the catchup services of all the big four UK broadcasters.

All of LG's smart features are accessed via the brand's redoubtable WebOS system. This is now in its 3.0 iteration, and still delivers arguably the most intuitive and slick interface around.

Two flavours of HDR

As well as offering a native UHD resolution and support for the HDR 10 'open standard' used in 4K Blu-rays, the OLED55C6 becomes the first TV in the UK to support Dolby Vision HDR. Dolby Vision adds a layer of dynamic

metadata to its HDR data that works to optimise the image on a scene-by-scene basis, as well as introducing a degree of specific screen hardware optimisation.

Having been somewhat disappointed with the issues most LCD TVs are having this year handling the contrast requirements of HDR, I started the OLED55C6 on a diet of infamously difficult, extreme-contrast HDR sequences, namely the night scene where Hugh Glass is rediscovered by his old pals in *The Revenant*, and Chapter 7 of *Exodus: Gods and Kings*.

Happily, for the most part it didn't let me down. This TV is able to deliver these sequences' incredibly deep blacks and seriously punchy torchlight sources simultaneously, without bright elements 'polluting' the darkest areas with extraneous light.

This sounds simple, but its impact on the viewing experience can't be overstated. It reveals emphatically that HDR's appeal is as much about black level response as brightness and, even better, it finally makes HDR look as





**RED
MENACE**

*Deadpool brings
potty-mouthed
comic fun to
4K Blu p98*

immersive with dark scenes as I already knew it could look with bright ones.

While the OLED55C6's handling of dark HDR content looks imperiously good versus any LCD TV, though, it isn't perfect. First, some dark colours – usually but not exclusively in background areas – can look a touch noisy. Also, I found really dark scenes can cause a peculiar glowing, blocking effect over the darkest picture areas. There were moments in *Exodus*, for instance, where shadows on the back of Nun's head occasionally succumbed to the glowing effect, obscuring detail.

And the same sort of glowing, detail-obfuscating noise appears over non-black picture areas too – especially if you've selected LG's Vivid or Bright HDR options rather than sticking with the Standard HDR mode.

'The OLED55C6's handling of dark HDR content is imperiously good compared to any LCD TV around'

This issue only happens with HDR, and only happens very occasionally. It's not as big a picture downer as the backlight leakage and blooming with dark HDR scenes on LCD TVs. But you will see it from time to time.

You thankfully won't see, though, nearly as much light banding or momentary black level reduction as you did with last year's LG OLED TVs. In fact, I only noticed momentary banding once and the old greyness issue a handful of times throughout my testing period.

Premium-grade performance

This screen impresses hugely with its colour performance. Saturations are beautifully rich, comfortably delivering enough of digital cinema's DCI-P3 colour spectrum to bag the set the AV industry's Ultra HD Premium badge of quality assurance. Its colour range chimes superbly, of course, with the wide colour gamuts associated with all of today's current HDR sources, particularly as the screen has such phenomenally deep and consistent blacks for colours to bounce off.

More success for the OLED55C6 comes from its Dolby Vision mode. I pitched a USB-delivered Dolby Vision version of a sequence in *Pan* where the pirate ship first arrives in Neverland next to the HDR 10 version from Ultra HD Blu-ray. The outcome was interesting; while the HDR 10 version appears brighter than the Dolby Vision take, the latter enjoys a richer, more realistic-looking colour palette, more subtle detail in the brightest image areas, and a generally much more controlled, balanced look.

This makes it a shame that at the time of writing Dolby Vision sources are in ridiculously short supply. With no Ultra HD Blu-ray players or discs out there yet, there's basically only *Marco Polo* on Netflix...

I've focused a lot so far on dark scenes, given OLED's prowess in this area. Importantly, LG has greatly increased the brightness output of its OLED panels from 2015, helping bright HDR scenes and light 'peaks' look much more vibrant.

To be clear, the best LCD TVs can go markedly brighter still. For instance, while the OLED55C6's Standard HDR mode produces 500-600 nits (unless you push brightness to a point where black levels break down), Samsung's



KS9000 LCD TVs routinely surpass 1,000 nits when an HDR source demands it. This does give the best LCDs an extra level of 'wow' and sparkle, as well as enabling them to reproduce more detail in the brightest areas of white and colour.

These are reasons enough, perhaps, to make it sensible for you to try and see both a good HDR LCD and the OLED55C6 in action to see which 'flavour' of image you prefer; LCD's punchier bright scenes or the OLED's vastly more natural dark scenes.

Beware of brightness

With standard dynamic range material – Blu-rays, broadcasts, most streamed video – the OLED55C6 does an almost perfect job so long as you keep the brightness setting within a tight 49-52 setting limit (below 49 crushes black detail, above 52 suddenly greatly reduces black level response). Colours look wonderfully balanced, the contrast range is immaculate, and the screen's 4K detailing is strong, at least with fairly static footage.

Action scenes such as *Exodus*'s early battle sequence can highlight shortcomings with LG's motion handling. You get some judder without any motion processing active but distracting digital side effects if you do activate it, and while LG has improved its upscaling of HD sources to 4K the results still don't look quite as detailed and crisp as those of its finest big-name rivals. Overall, though, OLED's pixel-precise lighting talents prove every bit as impressive with standard dynamic range content as they do with HDR.

The good news continues in the third dimension. A combination of the screen's rich colours, stellar contrast, decent detailing and, best of all, the stability and lack of crosstalk ghosting noise associated with LG's passive 3D system, creates one of the most convincing reproductions of *Avatar*'s lush alien landscapes I've seen to date.

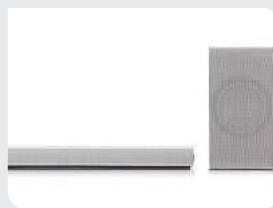
Predictably, given how little bodywork it's got to play with, the OLED55C6's sound isn't as explosively brilliant as its pictures. In fact, it sounds fairly average, as a lack of bass and raw volume leaves the soundstage feeling flat during boisterous movie moments. Voices are always clear and convincing, though, and there's a decent amount of detail in the mix – good enough, then, to leave it unassisted for casual TV viewing.

SPECIFICATIONS

3D: Yes. Passive **4K:** Yes. 3,840 x 2,160 **HDR:** Yes. HDR 10 and Dolby Vision **TUNER:** Yes. Freeview HD; DVB-S2 **CONNECTIONS:** 3 x HDMI inputs; 3 x USB; RF input; optical digital audio output; headphone jack; Ethernet; component/composite video **SOUND:** 40W **BRIGHTNESS (CLAIMED):** 800 nits (peak) **CONTRAST RATIO (CLAIMED):** N/A **DIMENSIONS (OFF STAND):** 1,225(w) x 714(h) x 48.9(d)mm **WEIGHT (OFF STAND):** 13.2kg

FEATURES: Built-in Wi-Fi; USB multimedia playback; DLNA multimedia playback; TruMotion motion processing; multiple HDR presets; WebOS 3.0 smart interface; Freeview Play catchup platform; Harman/Kardon sound system

PARTNER WITH



LG SH7: For a straightforward audio pairing, LG's new £400 SH7 soundbar ships with a wireless subwoofer and can be linked to other LG multiroom speakers to create a genuine 5.1 array. Features include Bluetooth TV connection and GoogleCast.

Best of breed

The OLED55C6 is easily LG's best OLED TV yet – until we get our hands on its G6 flagship, I imagine. It pretty much fixes the most substantial issues I had with last year's models, and it's the first TV I've seen that delivers dark HDR scenes that actually look – for the vast majority of the time – as convincing and engaging as bright ones.

There are still areas for LG to work on, such as achieving more brightness without compromising black level response, and removing that strange noise occasionally spotted during dark scenes. Dolby Vision support, while welcome, isn't yet a deal breaker. But overall this feels like another step towards global OLED domination ■

HCC VERDICT



LG OLED55C6

→ £3,000 → www.lg.com/uk

WE SAY: The OLED55C6's peerless black level performance, rich colours and mind-blowing design will surely give LCD TVs sleepless nights

3. Screen depth remains a part of OLED's appeal

4. The set supports both HDR 10 and Dolby Vision video content



Richard Stevenson runs out of speakers with a 32-channel processor

Living the AV high-life

I love it when a brand claims its product is the 'new reference'. A statement from the marketing department that is, generally, rarely true. Yet when that claim comes from Trinnov Audio, one has to sit up and take note. The French company has been at the forefront of commercial room correction and 3D sound reproduction since 2003, with technology now installed in production studios and cinemas worldwide. In fact Trinnov stands for 3D innovation... see what they did there?

1. As well as this zapper, the Trinnov supports smart device/PC control

2. The front display uses an OLED screen



For customers that simply must have the very best home cinema experience, Trinnov launched its Altitude32 AV processor last year. This brings all of the company's golden audio technology eggs into one very expensive, very desirable and very well-built domestic basket. What Trinnov and the Altitude32 doesn't do is fiddle, fettle or upscale your video, while onboard HDMI (offering the standard eight inputs and two outputs) is simply switching. Then again, it's assumed that buyers at this price (the Altitude32 sells for around £27,000 when fully loaded with 3D format support) will have a top-flight source and display combi that isn't going to need any help to deliver the visual goods.

Clearly, the Altitude32 is no ordinary home cinema processor. The headline trick is its ability to handle 32 discrete channels. Yes, that is 32 outputs on the rear, 16 via balanced XLR and 16 more balanced outputs on a D-Sub 25 port. It comes with huge processing power to process and map any Dolby Atmos, DTS:X or Auro-3D native feed onto your speaker config. Unlike AVRs and traditional AV processors that used chip-based DSP engines, the Altitude32 runs purely in software, the hardware being an Intel i7 quad-core chip, 64-bit floating point processor and a custom Linux-based operating system.

That architecture brings several advantages to the home cinema game. Fundamentally, as it is software-based, it is fully upgradeable over time. So if Dolby, DTS, Auro or even Disney bring out a radical new audio format, the Altitude32 is perhaps a software upgrade away from being able to process it. Speaking as a man who has purchased five flagship AV processors over the last 20 years, with a cost totalling more than the



AV INFO

PRODUCT: High-end object-based audio processor

POSITION: Trinnov Audio's top-flight hardware – 8-, 12-, 24-channel versions available

PEERS: Datasat RS20i



Altitude32, that sort of longevity actually begins to make a lot of sense.

And the architecture has also allowed Trinnov to move away from channel-based processing into purely object-based soundfield heroics. To some extent it doesn't particularly matter where you place your 'up to' 32 loudspeakers in the room. The Altitude32 measures, maps and optimises the room and speakers, and delivers a discrete output to each channel, fully tailored to the user's environment.

Handily, this works to eliminate the question as to whether you set your speaker positioning up in a traditional Dolby/DTS or Auro-3D configuration. The switchover between, say, Dolby Atmos and Auro-3D is done in Trinnov's software in the time it takes to press a touchscreen button. You also get a fairly basic remote control, presumably in case your tablet or PC running the appealing interface is out of arm's reach.

To underline the flexibility of the Altitude32, I'm told one recent install on a super yacht has three screens in the same room, each on different walls. Using the boat's GPS, the system fires up the screen with the least reflections from sun through the windows, and maps the orientation of the sound onto the room's speakers accordingly. Object of desire? Oh, I think so.

Rocking Anthem

For this review, the headline 32 channels brought with it some potential challenges. Namely installing 32 amplifiers, 32 speakers and enough speaker cable to get to Trinnov's Paris head office and back again. This would certainly be the effort if I had owned an Altitude32, not so practical for a temporary audition. So, aided by some additional Paradigm speakers and a hefty stack of Anthem Statement M1 and P5 power amps from Trinnov's UK distributor Anthem AV Solutions, a 9.4.6 system was established, the latter split between overheads and side speakers.

Walking into the cinema room wearing my best lounge trousers and kicking back for a movie was unusual in that



3. Trinnov's XLR connected setup microphone uses four separate mics

3

I didn't have to set anything up. Anthem AVS handled installation, and this is probably how most owners of the Altitude32 will first experience it, as this is professional install territory and Trinnov's mad-looking 3D microphone is an extra £550 – hard to justify for a one-use bit of kit. The Altitude32 itself is relatively innocuous looking, as befits a processor for a more discreet top-end installation, but look closely and the milled aluminium fascia and full OLED display are properly lush.

So, that microphone. Long before the Altitude32 became a reality, Trinnov developed a 3D gizmo that employs four separate mic capsules. As a soundwave passes through this array of microphones it measures not only the frequency characteristics but the direction and distance, using vector-based maths on the delay with which the sound hits each mic. This allows the Altitude32 to differentiate between direct sound, early reflections and subsequent reverberation, and process each individually.

In terms of other add-ons, Trinnov has just launched a power amp to match the mighty Altitude32 processor,

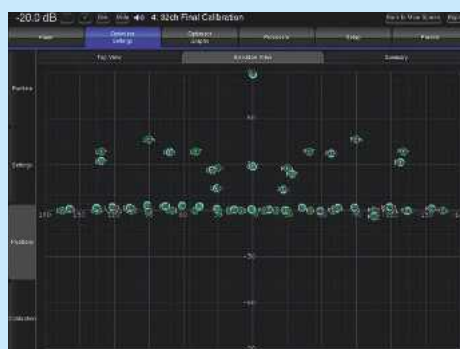
Not an ordinary EQ system

Using the 3D mic and a laptop, the Trinnov software gives you the sort of feedback, control and customisation that you're unlikely to ever find on an integrated AVR. Moreover, as this is all in software updates, new features and paid-for formats can easily be added



Custom mapping

While much hardware uses stock images to show the approximate positions of speakers, when the Trinnov measures your room it creates a custom 3D map



Vertical insanity

Trinnov's intelligent system EQs each speaker and applies its 3D optimisation to create an immersive soundfield with scalable vertical height.



Radial soundfield

In the final calibration of this 32-channel setup, the Trinnov has created a perfect radial soundfield from speakers set out in a rectangular pattern around the room

Pushing Blu-ray forward since it began

Blu-ray



BDP-93EU

"outstanding value for money"

BDP-95EU



"reference grade kit"



BDP-103EU

"an absolute triumph"

BDP-105EU



"the most significant evolution of the Blu-ray player since the format was developed"



BDP-103D

"an extra trick up its sleeve"

BDP-105D



"Blu-ray at its brilliant best"



What's next...?

oppo

oppodigital.co.uk



4

both in design and audio quality. The Amplitude8 is an eight-channel fully-balanced powerhouse delivering 8 x 225W into 8 ohms using Hypex Ncore Class D amplification technology. The casework matches the Altitude32's beefy aluminium front panel in black or silver. At just shy of £11,000 a piece, the Amplitude8 is gorgeously high-end throughout, although if you want the full 32-channel experience you will, of course, need four of them. Ouch.

Despite my desire to simply laud it over the remote like a super yacht owner, myself and Tom Garrett, Anthem AVS's technical sales manager, went through a full setup using Trinnov's software running on a laptop... and it baked my noodle. The sheer depth, complexity and level of customisation that is possible would take a week-long course and plenty of hands-on experience to learn properly.

The actual room measurement method is not unfamiliar though, using the Trinnov microphone at each seat and a few points around the room for good measure. There is no limit to how many measurements you can take and the software allows you to bias by percentage which seats you want to get the very best 3D sound experience. If there is just you, you can set it 100 per cent centred on that seat; if you have a cinema room usually full of guests you can optimise for sound across all listening positions.

All this data is then crunched by the Altitude32 to provide a smooth frequency, clean up impulse response, adjust group delay, improve phase accuracy, and so on, for every speaker. It then decodes the native incoming signal and maps it onto your array.

You then have the option to do, well, pretty much anything in the way of customisation. Want to apply a

blow-you-off-the-sofa EQ curve for action movies?

No problem. Night mode with limited dynamic range?

Sure. Perhaps 32-channel stereo with the subwoofer set on 'stun' for some serious AC/DC? Why not?

Wick it up

It would have been rude to not kick-off without a full Dolby Atmos action sequence, and *John Wick* was first into my Oppo Blu-ray player almost by default. Ten minutes later, waxing lyrical about the power, the dynamic range, the scale and unbelievably immersive acoustics would have been too easy. Yes, they were all absolutely first-class, yet what really takes your breath away with the Altitude32 is the clarity and definition of seemingly every single facet of the soundstage.

In the nightclub shootout scene around the swimming pool (seriously, who has a swimming pool in a nightclub?), the venue's ambience is fabulously well portrayed, punctuated by percussive gunshots echoing through the scene and reverberating around the listening room. The processor, with that 19-channel system, is stunningly realistic in acoustically recreating the sequence. Moreover, fearfully loud effects never swamp the rest of the soundfield, allowing everything from breaking glass to running footsteps to shine through the action with superb presentation. The complete lack of clouding or blurring of details gives the sound an intense flavour, perfectly backing up the onscreen hi-def action.

A run-through of classic movie scenes and set-pieces ensued, from the deli counter's worth of cheese of *Jupiter Ascending* to the sonic chaos of pretty much all of *Mad Max: Fury Road*. Again, while the scale and presence are spectacular, it is the resolution of detail that really



mesmerises. Each effect, no matter how large or small, is given its own leading role with nothing playing a bit-part or lost in the background.

Just in time for this review, Trinnov secured licensing for native DTS:X processing on the Altitude32, so I was able to move from Atmos to its main rival. The *Divergent* sequence from the DTS demo disc showcased the processor's atmosphere-building capabilities. The relatively calm and surreal scene of the water-filled Houdini box, a finger nail tapping inquisitively and the slow, inevitable splintering and cracking of the glass, proved so dramatic I found myself holding my breath. And when the obvious happens – the glass shatters – the dynamic impact thundering out of the tense, inky black silence makes for a heart-skip moment.

Native Auro-3D movies to test the Trinnov's Auro-3D abilities are as rare as hen's teeth, but Sony Pictures' *Pixels* on BD and some additional content rustled up by the Anthem team provided enough to make it worth engaging. And a native Auro-3D 11.1 mix, reconfigured over what was, in this setup, a Dolby Atmos speaker layout, delivered width and height that made a complete mockery of the room's actual dimensions. Directly comparing Auro-3D with the 'flat' versions, the Auro-3D sounded bigger with more warmth and enormous scale, but perhaps with a little less of the incredible intensity in rendering of effects.

Using the iPad interface, I experimented toggling between native DTS:X sound and Auro-Matic upmixing, still using the Altitude's processing to map the result onto the 9.4.6 speaker configuration. Auro-Matic delivered a bigger, more gung-ho sound compared to the native mix, but DTS:X proffered improved clarity and precision. I'd

DOLBY ATMOS: Yes **DTS:X:** Yes **AURO-3D:** Yes (via paid upgrade) **THX:** No
POWER OUTPUT: N/A (processor only) **HDMI:** 8 x inputs; 2 x outputs (1 x HDCP 2.2)
AV INPUTS: 4 x digital optical audio; 4 x digital coaxial audio; 2 x AES/EBU
ANALOGUE MULTICHANNEL INPUT: Yes. 7.1 phono (plus stereo XLR) **MULTICHANNEL OUTPUT:** Yes. 32-channel via XLR output/D-Sub 25 **MULTIROOM:** Yes. Any configuration of the 32 channels **VIDEO UPSCALING:** No **DIMENSIONS:** 442(w) x 445(d) x 165(h)mm **WEIGHT:** 14kg

FEATURES: Discrete 32-channel processing; Trinnov Optimizer room EQ; 24-source pre-amp; Auro-3D/Auro-Matic; IP/Wi-Fi/RS-232 remote control; support for 0 to 32 subwoofers; software-based upgrades for future audio formats; extensive manual sound control including individual channel EQ/delay/gain/polarity; Trinnov 3D remapping; 12V trigger; UPnP/DLNA audio renderer; headphone output

PARTNER WITH



PARADIGM SUB2: Bolster your high-end 3D soundfield with monstrous bass from Paradigm's £9,500 six-driver subwoofer. Claiming 9,000W of peak power and a low reach down to a frightening 7Hz, this is a reference-grade LFE machine.

suggest each will have their own preference; the fact you can seamlessly swap between these two formats (or, say, Atmos/DTS Neural:X), in real time, is testament to the Altitude's formidable processing power and a very useful tool.

Of course, most cinema enthusiasts will have a large collection of standard Dolby Digital or DTS material, including streamed material. So how does the Altitude32 handle remapping channel-based native formats using its object-based audio processing core? I dug up the *Legends of Jazz* Blu-ray, and Marcus Miller's *The Panther*. The performance was, in a word, stunning. The dynamics, clarity and sheer resolution of tiny details, such as Miller's hand hitting the strings, were the best I've heard of any AV processor. Only the Anthem Statement D2V has ever come close in my listening experience, and I couldn't afford that either.

This 19-channel system filled the room with sound with consummate ease, so is the full 32-channel experience just for rooms the size of a commercial cinema?

Not so, says Garrett. 'You can run the Altitude32 with a basic nine-speaker setup if desired, but the more speakers that are installed the more accurately the processor can measure, map and optimise the room and create the most accurate soundfield. Obviously there are physical and financial constraints in running a 32-speaker setup, but the system's accuracy and performance will scale up with more speakers irrespective of actual room size.'

How to sum up the Altitude32? There's probably no more flexible AV processor currently available for home cinema. Its ability to switch fleet-footed between sound formats is remarkable; its sound is precise, authoritative and balanced. Yes, it's expensive, but the best things often are ■

4. Via its balanced XLRs and D-Sub port, the processor can deliver up to 32-channel audio

HCC VERDICT



Trinnov Audio Altitude32

→ £27,000 → www.anthemavs.co.uk

WE SAY: Stunning sound and incredible flexibility make Trinnov's AV processor the must-have heart of any flagship home cinema – as long as it is a money-no-object system

**FASHION
FORWARD**

Zoolander 2 sees
Derek and Hansel
back in business
on BD, p97



Philips attached nine Pico PJs to a 65in 4K TV.
Steve May lets it light up his home entertainment

Ambilight jumps the shark

Philips' Ambilight has long had its admirers, and rightly so. The ability to bathe your walls in delicious colour while watching television is a surreal pleasure that few would deny. Even hardcore home cinephiles will concede that using Ambilight's neutral (behind the screen) bias lighting to relieve eye strain and improve contrast has its place. But with the introduction of AmbiLux, has the technology gone too far?

Instead of the usual LED lighting strips, AmbiLux features nine LED projectors, arranged in a half circle on the back panel. These literally project images out from behind the set. While there are multiple viewing modes, at its most literal AmbiLux will simulcast a defocused mirror of what's onscreen several metres wide. This may sound bonkers, but it can also look remarkably impressive. Imagine a lava lamp crossed with a telly, and you'll come somewhere close.

AmbiLux is currently only available on this 65in 4K UHD 65PUS8901, which is exclusively available via Harrods. But don't bet against additional screen sizes coming to market in due course.

While the projector array adds a certain amount of girth, this flatscreen remains fashionably slim. The panel has a thin black bezel offset by a chromed trim wraparound; the back panel is stylishly white. It's a smart looker. Note that it sits on non-adjustable wire-frame 'Bladewire' feet, so you'll need wide furniture to accommodate it.

AmbiLux requires that the TV sits precisely 9cm from the wall (a measurement card to position the feet from wall is provided in the box). Pull the TV out any further and the projection casing itself creates an unwanted shadow behind the screen. You also have to be careful that trailing interconnects don't spoil the lighting effect – to that end there's some cable management with tethered Velcro straps to keep things tidy.

While there is adaptive wall compensation offered to maintain fidelity against fancy wallpaper, a plain white wall is the most effective backdrop.

There are no VESA mounts on the set (because of that projector array), but Philips can supply an AmbiLux-friendly wall-mount if required – this does protrude out quite some distance from the wall, though, meaning tabletop placement is perhaps preferable.

Connectivity is inclusive. The set has four HDMI inputs, all of which support HDCP 2.2. There are also Scart, component video and stereo phono audio inputs, plus optical digital audio output, Ethernet and a trio of USBs. The screen is Bluetooth-enabled, supports dual-band Wi-Fi, and packs Freeview terrestrial and generic HD satellite tuners. There's no support for 3D, because Philips says there's no longer any demand for it.

When using the screen with an external 4K source, you'll need to manually enable the HDMI inputs; there's a choice of 4:2:0 colour subsampling or upsampled 4:4:4.

The remote control is interesting, in that it has a touchpad on one side and a thumb keyboard on the other. There's also an integrated microphone for Google Voice Search.

The smart platform *du jour* is Android, distinguished by a Philips-curated content shelf offering BBC iPlayer and recommendations from Netflix (here with 4K playback) and other services. Beyond iPlayer, there's not a lot on offer in terms of catch-up. Still there's YouTube, Dailymotion, Deezer and Wuaki.TV, as well as games from Gamefly. The set boasts 16GB of memory, to download apps and games. This is further expandable via USB.

In use, our screen proved a bit of a trial, thanks to some outrageously buggy software. While our experiences will hopefully be unique to this sample, constant crashes don't inspire any great confidence in the Android platform.

Media playback is fine; the set coped with a variety of file types from USB and across a LAN, including AVI, WMV, MKV, MOV and MP4 video formats, plus FLAC, MP3 and WMA audio.

Lighting the way

So what exactly does AmbiLux offer that Ambilight doesn't? Well, the various light modes can 'follow' either >

AV INFO

PRODUCT:
 AmbiLux-equipped
 Ultra HD Android TV

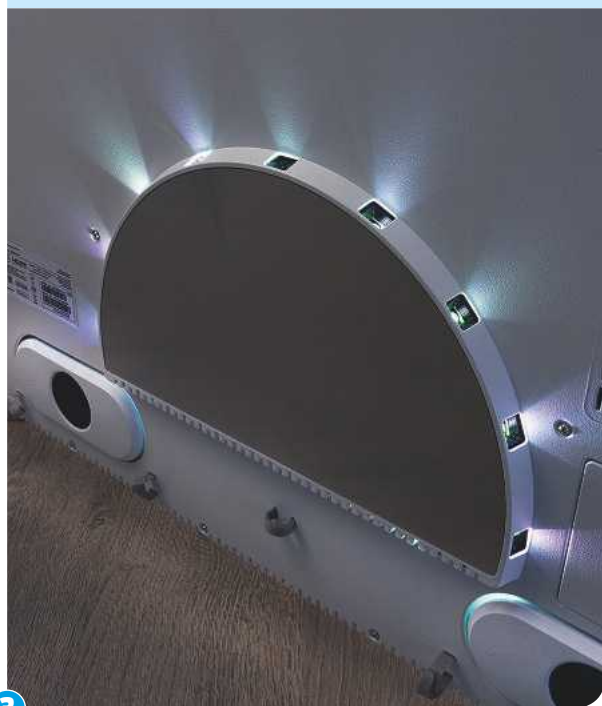
POSITION:
 Near the very top of
 Philips' line, next to
 the direct-lit 7601

PEERS:
 Sony KD-65XD9305;
 Panasonic
 TX-58DX802

1. Philips' AmbiLux tech is currently only offered at 65in

2. The TV ships with a dual-sided remote





SPECIFICATIONS

3D: No **4K:** Yes. 3,840 x 2,160 **HDR:** HDR 10 pending firmware update **TUNER:** Freeview/satellite **CONNECTIONS:** 4 x HDMI inputs; Scart; component with stereo phono inputs; optical digital audio output; Ethernet; 3 x USBs **SOUND:** 2 x 15W **BRIGHTNESS (CLAIMED):** 400 nits peak **CONTRAST RATIO (CLAIMED)** N/A **DIMENSIONS (OFF STAND):** 1,447(w) x 833.7(h) x 42.3(d)mm **WEIGHT (OFF STAND):** 24kg

FEATURES: AmbiLux projection with adaptive wall colour and Hue integration; integrated dual-band Wi-Fi; USB recording; DLNA and USB multimedia file playback; quad core processor; Android smart platform; Ultra Resolution upscaling; Perfect Pixel Ultra HD processing; Perfect Natural Motion; HDCP 2.2 on all HDMI

PARTNER WITH



ALPHASON CHAPLIN: Get the 1,600mm version of this cabinet from the AV furniture specialist to cater to Philips' sizable TV. Available for £400, it features adjustable shelves, cable management and is available in both charcoal and light oak

video or audio, and filter accordingly. An Extreme mode casts a live image wide behind the set (I filled the entire wall of my media room, some 3m), while Dome, Standard, Cube, Tunnel or Relax mould the image descriptively.

Alternatively, seven sound moods cause the projector to replicate the beat of TV audio, making them a fun choice for live concerts. While the 65PUS8901 doesn't offer a 'classic' Ambilight mode, you can throw up static colours – choose from red, blue, green, warm white or cool white. You can also integrate a Philips Hue system.

Unlike Ambilight, which can simply double as an additional room light, AmbiLux is somewhat more intrusive. Consequently, it works better with some content than others. Gaming might seem the natural partner, but

'AmbiLux transpires to be a successful offshoot of Ambilight... it's capable of spectacular results'

I found it could be distracting, particularly with fast-moving FPS titles. Catching movement from the corner of your eye doesn't help when playing *Doom*, for example. More gentle fare, like *Home Grown*, looks fabulous though, with rich blues and greens bathing the room.

With movies and my favourite TV shows, I found myself fussy. Bias lighting is fine, but I didn't really dig the crazy kaleidoscope when trying to absorb every second of *Game of Thrones*.

HDR on the horizon

Picture quality is generally impressive, although in terms of performance, this screen can be classed as a mid-ranger. There's limited motion resolution and HDR wasn't an option I could test (a firmware update is promised in July, so may have arrived now – the TV claims a 400-nit peak luminance), but detail reproduction is very good and there's an involving vibrancy to colours.

AV aficionados will likely select Movie mode (other presets include Personal, Vivid, Natural, Standard and Photo, plus ISF Day and Night), but I'll warn you that this

is oh-so dull. In fact, it's so contrast deficient you actually get fewer stars in the opening text crawl to *Star Wars: The Force Awakens* than in the Standard mode (honestly, I counted them).

That said, beware of presets that activate Philips' Perfect Natural Motion video processing. While this eliminates horizontal panning judder, it adds some pretty obvious motion artefacts. I generally preferred it switched off, accepting the drop in motion clarity.

The 65PUS8901 does a credible job upscaling regular HD content, but the best results naturally came with native 4K material. Partnered with a UHD 4K Blu-ray player, it reveals masses of fine detail. Matt Damon's space suit in *The Martian* appears ravishingly textured, while the landscapes in *Marco Polo* (Netflix 4K) exhibit a similar level of depth.

Illumination of the VA panel (some other sets lower down in Philips' 2016 line employ IPS designs) comes from an edge LED array. It's not entirely successful – a lack of real black depth hinders cinematic enjoyment, and some shadowed items, such as Poe Dameron's jacket when he sits around the fire at the start of *The Force Awakens*, look hollow. Off-angle viewing is also quite limited. Sit away from the centre and you'll experience a pronounced drop in contrast and colour.

I'd suggest that these image foibles are less of a concern to potential buyers considering this TV's main attraction is its AmbiLux tech. And against all odds, this transpires to be a surprisingly successful offshoot of Ambilight. Not so much a successor – more a slightly deranged sibling – but capable of spectacular results. To make the most of it though, you really need the right kind of viewing environment to showcase the technology. Get it set up, and it adds an extra dimension to some solid – but not outstanding – Ultra HD visuals ■

HCC VERDICT



Philips 65PUS8901

→ £4,000 → www.philips.co.uk

WE SAY: AmbiLux melds fuzzy LED projection with 4K resolution and the end result is a crazy light show that's hard not to like, although rival screens at this price pack better pictures

3. The bank of Pico PJs is flanked by rear-firing speakers



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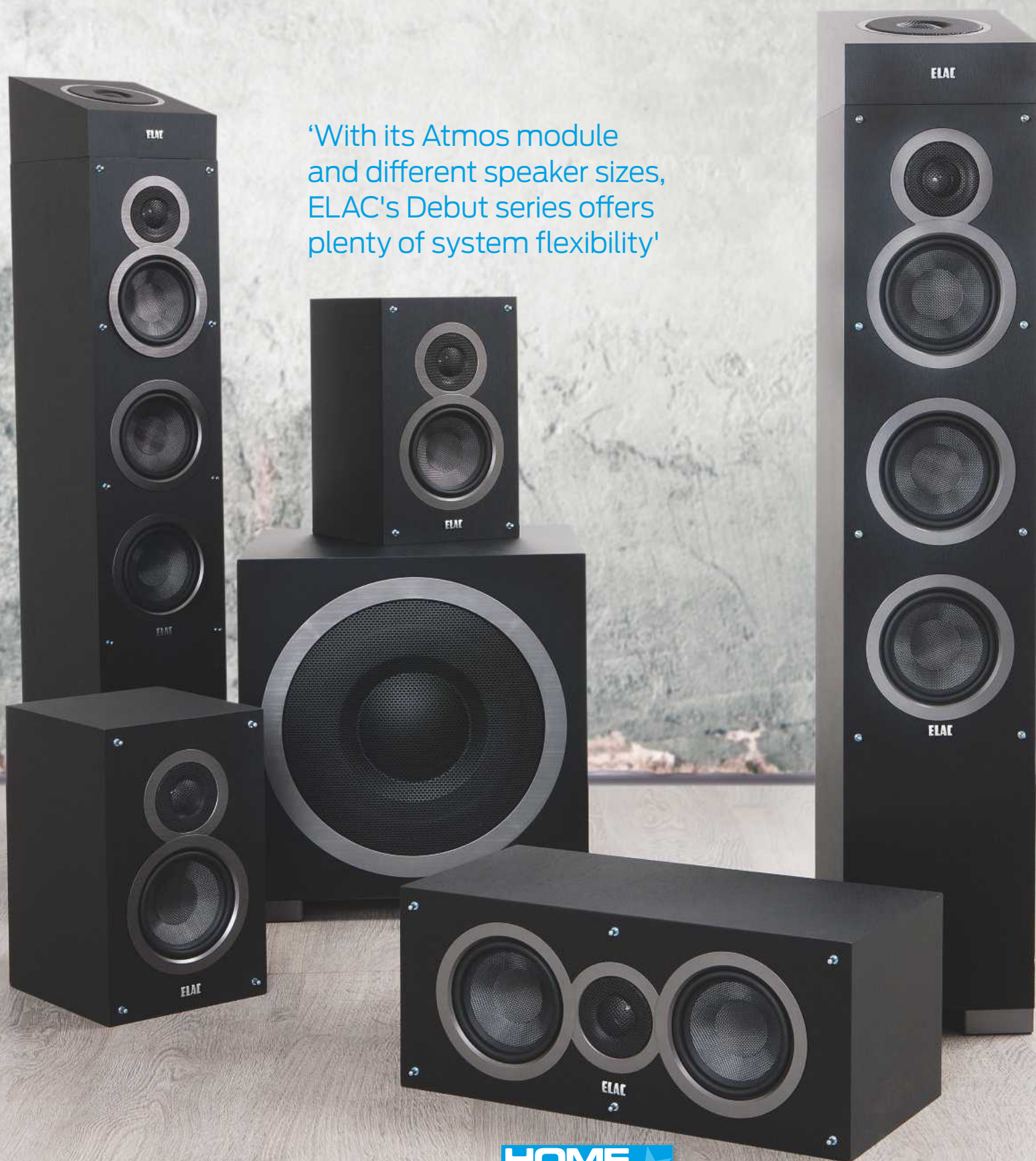


White

Q Acoustics 7000i Awards



'With its Atmos module and different speaker sizes, ELAC's Debut series offers plenty of system flexibility'



ELAC's well-priced Debut series mixes traditional speakers with Atmos modules. **Ed Selley** listens in

Keeping up with Mr Jones

As a country, Germany exerts a variable influence on the UK. We're extremely keen on its cars and white goods, can generate a fair bit of enthusiasm for the beer and tend to be rather less enthusiastic about the food. And, historically, we've been less certain in our attitude towards German audio. The country boasts an impressive selection of manufacturers, many of whom have been represented in the UK for years, but British, American and even Danish brands are often more well-known.

ELAC, hailing from Kiel in the country's northernmost state, has been in existence for 90 years, and selling speakers in the UK for quite a while. And it's now unleashed its most affordable full-size range.

The Debut series comprises two floorstanders (the F5 and F6), three standmounts (B4, B5 and B6), a centre (the C5), no less than three subwoofers (the S12EQ, S10EQ and S10) and – most importantly for a surround speaker package in 2016 – an upward-firing Dolby Atmos-enabled surround speaker. As lineups go, it offers plenty of flexibility to the home cinema purveyor.

The set auditioned here contains the £600/pair F5 floorstanders and £250/pair B5 standmounts to handle front and rear channels with the C5 centre speaker (£200) and two of the A4 Atmos modules (£250/pair). This is then underpinned by the hefty S12EQ active subwoofer, which sells for around £650. All told, it's a 5.1.2 speaker array with a total asking price just shy of £2,000.

The speakers boast what could almost be described as a celebrity designer. The Debut range has been engineered and voiced by Andrew Jones, who is based out of the company's US operation. Jones originally made a name for himself with his work for KEF and Pioneer/TAD – at the latter company he was responsible for its massively expensive Reference One models. Jones has designed the Debut range with the stated aim of using technologies, materials and techniques that are normally reserved for more expensive loudspeakers. This means no off-the-shelf parts and a start-from-scratch thinking. 'Every speaker is built from a clean-sheet design,' he says.

The passive speakers in the system are based around a 1in soft dome silk tweeter, which is partnered with an Aramid midbass driver/woofer. Aramid is a heat-resistant

synthetic fibre, related to but subtly different from Kevlar. ELAC says it has selected it due to its very high strength-to-weight ratio, plus improved damping characteristics over more conventional paper or plastic designs. The crossover that mates them is entirely bespoke. This is all then placed in a thick and internally-braced MDF cabinet.

In the case of the F5, B5 and C5, this pairing takes the form of the tweeter being joined with a 5.25in version of the Aramid driver, boding well for a convincing handover between the speakers. There are three of the 5.25in units in the floorstander; two are designated as woofers, roaming frequencies between 42Hz and 100Hz. Two are employed in the C5 centre channel speaker on midbass duty.

Atmos addition

As ELAC has keen ambitions for the Debut speakers in stereo setups, it's taken the logical decision to launch a self-contained upfiring Atmos module, rather than build it into the top of the cabinets in the manner of Pioneer's S73 speakers. The compact A4 can't accommodate drivers of the same size as its brethren, so makes use of a 0.5in tweeter mounted coaxially in a 4in Aramid midbass.

The S12EQ subwoofer is also interesting. This is a sealed cabinet design that uses a 12in forward-firing doped paper driver with a partnering 12in passive radiator. Powering it is a 500W RMS BASH amplifier. The S12EQ promises a low-end response of 25Hz, and benefits from ELAC's proprietary app that I recently saw in the SUB 2070 [HCC #261]. This allows you to tweak volume and EQ settings on the fly and run an auto setup sequence independently of your AV receiver. This is periodically a little unstable – any vibration created by the subwoofer tends to stop it from finishing the job – but it gives the S12EQ an enticing

AV INFO

PRODUCT:
Floorstanding speaker pack with Atmos upfiring

POSITION:
At the affordable end of ELAC's lineup

PEERS:
Pioneer S Series; Monitor Audio Bronze

1. Aramid midbass drivers/woofers are used across the range

degree of flexibility in use, not to mention making in-movie bass adjustments relatively painless.

The Debuts are finished in what ELAC describes as a 'luxurious textured vinyl finish.' What the company defines as luxurious might be somewhat different to my take on the term. The effect is tidy but still fairly plain and there are prettier rivals available for similar money. This being said, the level of overall build quality seems fine and there are some neat little design touches across the speakers that help them feel solid and well thought-out. Speaker binding posts are robust, spikes enable the F5s to stay sturdy, and grilles (which you may want to remove to reveal the silver driver surrounds) attach to fixed posts.

With a reasonably benign 6 ohm impedance across the set, the Debuts should not prove to be too challenging for most Atmos/DTS:X equipped receivers, although rear-porting of all the standard speakers makes against-the-

'This system is more than on the money, with a keen balance between smooth delivery and attacking flair'

wall placement a no-no. The A4s (which are sealed) are designed to be placed atop either the floorstander or standmount models, and make for a snug aesthetic fit. There is, of course, nothing to stop you mounting them on other surfaces should you want.

ELAC awakens

Initially using the ELACs with regular 'flat' material, the Debuts demonstrate a number of extremely positive traits. With the opening First Order attack on the village in *Star Wars: The Force Awakens*, the system proves a dab hand at managing the smallscale and wider effects without losing sight of either. BB8's frantic beeping remains clearly audible over the incoming blaster fire and the score is perfectly worked into the mix.

And spend a little time with the Debuts and it becomes clear they're very accurate but unforced speakers. The top-end is refined but extremely detailed, managing to balance excitement and a sense of energy with the necessary smoothness to allow for long-term listening at high levels. There's a good, even blend between high frequencies and midrange info. Plus, in keeping with a number of full-size speaker packages, each member of the Debut system has enough bass power to give soundtracks welcome heft without being totally dependent on the sub to fill out the performance. The net result is that even with the wick up, they sound slick, detailed and – above all – fun.

As you will expect with speakers sharing the same drivers, the Debuts are effortlessly capable at handing over seamlessly from one to another. The F5 floorstanders, in particular, have an impressively wide dispersion that means that the C5 centre's delivery (which is endowed with appreciable weight courtesy of its twin midbass drivers) is aided considerably by the sheer size of the soundstage that comes from left and right. The presentation of the smaller B5 surround models is not quite so spacious, but these affordable standmounts still do a better job at spreading out effects than many speakers of this ilk. For a five-speaker pack, the Debuts create an immersive, convincingly largescale sonic spread.

2



3



The soundscapes of JJ Abrams' blockbuster are therefore easy to lose yourself in.

More over, they are equally at home when you switch from a galaxy far, far away to the terrestrial drama of Steven Soderbergh's virus thriller *Contagion*. Here, the brooding soundtracks and hushed dialogue are dealt with effectively, the ELACs accomplished at setting the scene. Even at lower listening levels, everything remains clear and well presented. So while these speakers can turn on the excitement and deliver explosive home cinema fun when needed, both with a fulsome low-end and sweet high frequencies, they're also capable of real subtlety.

Moving on to Dolby Atmos playback, and making use of the A4 speakers for the first time, proved interesting. I mounted them atop the F5s (deciding to introduce a few pads of Blu-Tack for added security) and re-ran speaker setup on my Yamaha AVR.

Compared to the bling-tastic (and more pricey) KEF R50s, the ELAC A4s look unobtrusive, and the sound they produce might also warrant the same term. Fed the opening chapters of *Mad Max: Fury Road*, at first there was perhaps little that the ELAC system did in Atmos mode to have me shouting 'Ah, that's the Atmos version!'. Yet switch back to the core TrueHD mix and you're immediately aware that the presentation closes in and loses some of the effortless three-dimensionality that the A4s provide. They're effective at blending in with the rest of the array, and in my room succeeded in adding an additional layer of complexity and height. They're not a full-range proposition, though, with a claimed frequency response rolling off around 180Hz.

The Pioneer S Series array that I previously tested is a useful comparison but only to a point. It was, it has to be said, a little more attention-grabbing, with height-layer effects more deliberate and tangible, but it was a 5.1.4 configuration. Note that you could add two more A4s to this setup for just £250.

Bolstering the system is the S12EQ subwoofer, and it's a bit of a star. This is a sizeable (43cm cube) device that appears to have been designed entirely with potency in mind and to hell with aesthetics. It carries bass moments with scale and low-level menace, pulverising you into your cinema chair, although it's not the most fleet of foot. The smart device app ensures that adjusting its



SPECIFICATIONS

Debut F5

DRIVE UNITS: 1 x 1in soft dome tweeter; 1 x 5.25in Aramid midbass driver; 2 x 5.25in Aramid bass drivers **ENCLOSURE:** Triple-ported **FREQUENCY RESPONSE (CLAIMED):** 42Hz-20kHz **SENSITIVITY:** 85.5dB **POWER HANDLING:** 140W **DIMENSIONS:** 200(w) x 965(h) x 222(d)mm **WEIGHT:** 14.9kg

Debut B5

DRIVE UNITS: 1 x 1in soft dome tweeter; 1 x 5.25in Aramid midbass driver **ENCLOSURE:** Single-ported **FREQUENCY RESPONSE (CLAIMED):** 46Hz-20kHz **SENSITIVITY:** 85dB **POWER HANDLING:** 120W **DIMENSIONS:** 200(w) x 324(h) x 222(d)mm **WEIGHT:** 5.2kg

Debut C5

DRIVE UNITS: 1 x 1in soft dome tweeter; 2 x 5.25in Aramid midbass drivers **ENCLOSURE:** Twin-ported **FREQUENCY RESPONSE (CLAIMED):** 48Hz-20kHz **SENSITIVITY:** 87dB **POWER HANDLING:** 120W **DIMENSIONS:** 476(w) x 200(h) x 222(d)mm **WEIGHT:** 8.2kg

Debut A4

DRIVE UNITS: 1 x 0.5in soft dome tweeter; 1 x 4in Aramid midbass driver **ENCLOSURE:** Sealed **FREQUENCY RESPONSE (CLAIMED):** 180Hz-20kHz **SENSITIVITY:** 85dB **POWER HANDLING:** 50W **DIMENSIONS:** 200(w) x 123(h) x 222(d)mm **WEIGHT:** 6.5kg

Debut S12EQ (subwoofer)

DRIVE UNITS: 1 x 12in active and 1 x 12in passive doped paper woofers **ENCLOSURE:** Sealed **FREQUENCY RESPONSE (CLAIMED):** 25Hz-150Hz **ON BOARD POWER:** 500W RMS/1,000W peak **REMOTE CONTROL:** No – app control instead with auto EQ **DIMENSIONS:** 432(w) x 432(h) x 432(d)mm **WEIGHT:** 24.9kg **CONNECTIONS:** LFE in

PARTNER WITH



DEADPOOL ULTRA HD BLU-RAY: Test the ELAC system's Dolby Atmos mettle with Fox's first Atmos-encoded disc release. This risqué comic book blockbuster sports an ear-pleasing, inventive soundmix, not to mention 4K visuals. See p98 for more.

performance is simple – as is installation, with connectivity running to nothing more exotic than a single LFE input.

Using the ELAC F5s in stereo, the good vibes remain. An impressive ability to generate a big, easy-to-follow soundstage means you can throw your music collection at the speakers and they handle it with assurance. There's enough bass weight to let you give the sub a rest, and while the speakers reward with good-quality sources, their voicing is sufficiently forgiving so that low-bitrate Spotify streams sound more than reasonable.

Balancing act

This array, then, is a blast. In performance terms it's more than on the money, with a keen balance between refined, smooth delivery and attacking flair. The Atmos upfiringers make for a seamless add-on. Certainly, the enclosures lack a little visual panache and the subwoofer is a bit of a whopper, but this at this rate the Germans might be adding another category we make a beeline for ■

HCC VERDICT



ELAC Debut 5.1.2

→ £1,950 → www.hifi-network.com

WE SAY: A seriously accomplished speaker package that offers superb performance in stereo and multichannel, and a compact and effective Atmos add-on

2. The A4 upfiring speakers share the same dimensions as both the F5 and B5 speakers

3. The centre speaker (like the floorstanders and surround models) is rear-ported

4. All speakers are dressed in a black vinyl finish

AV INFO

PRODUCT:

Native 4K SXRD projector with HDR compatibility

POSITION:

The cheapest of Sony's 4K PJs, above its Full HD models

PEERS:

JVC DLA-X7000;
Sony VPL-VW520ES

1. This PJ uses the same curved chassis as its VW520ES sibling

Sony pushes the pixel

This entry-level 4K projector makes **John Archer** wonder if resolution is everything when it comes to his home cinema hobby



While 4K/Ultra HD TVs are 10 a penny, native 4K projectors remain in startlingly short supply. In fact, while a few DLP-based models are expected to turn up in late 2016, at the time of writing the only true 4K projectors you can buy are made by Sony. And the cheapest of these Sony projectors – at £5,850 – is the VPL-VW320ES.

With that asking price, I guess the VW320ES isn't really cheap in the way most households understand the term. But it's three grand more affordable than its step-up native 4K sibling, Sony's hugely impressive VW520ES [see HCC #254], and it's only £100-£200 dearer than the JVC DLA-X7000 [see HCC #259] – a projector that only offers a pseudo 4K experience rather than a true pixel-for-pixel one.

As if the VW320ES's combination of price and native 4K resolution didn't already make it an intriguing proposition, Sony has recently rolled out a firmware update for it that introduces HDR playback. This is a potentially big deal given that 4K video sources are increasingly being partnered by HDR's expanded brightness and (in most implementations) colour range. In fact, it's the HDR aspects of the first batch of Ultra HD Blu-ray transfers that have tended to wow us more than their extra resolution.

With JVC's otherwise fantastic DLA-X7000 already proving, though, that delivering HDR is no picnic for halfway affordable projectors, it will be interesting to see if the VW320ES can pay anything more than lip service to its new HDR talents.

Familiar face

The VW320ES certainly looks like it means business. Its 'squashed Darth Vader's helmet' shape is identical to that of its higher-specified VW520ES stablemate, and the lens protruding from its front edge is just as promisingly large. It's fearsomely well built too, and its size includes plenty of room to help it vent the heat emitted by its onboard 225W lamp.

Connectivity includes two HDMI inputs, RS-232 and Ethernet ports to aid integration into a home control system, and two 12V trigger ports for firing up external motorised components like a drop-down screen, or aspect ratio 'curtains'.

It's a bit disappointing that only one of the HDMI's carries the HDCP 2.2 support necessary to handle 4K/HDR sources. Although I guess that realistically a single 4K HDR port will be enough for most setups right now.

The VW320ES claims a maximum light output of 1,500 Lumens and a contrast ratio of... actually, Sony doesn't say. That brightness figure is down 300 lumens on the output of the higher-end VW520ES, and the lack of a quoted contrast ratio is quite alarming/telling given that Sony has no qualms over bragging about the VW520ES's supposed 300,000:1 contrast ratio.

The projector is fantastically easy to set up, mainly because you can control the focus and extensive amounts of motorised zoom (2.06x) and image shift adjustments (+85%/-80% vertical and +/- 31% horizontal) via the backlit remote control. Picture calibration tools provided are extensive enough to support a professional

installation too, with colour, white balance and gamma management all present and correct. And there's a wealth of picture preset options, including the Cinema Film 1 and 2 modes that I'd recommend for critical viewing, Bright TV and Bright Cinema options for when there's a degree of ambient light in the room, and a User mode for saved settings.

As with the VPL-VW520ES, the Sony can be bought in both black and white finishes.

Revealing The Revenant

Feeding the Ultra HD Blu-ray of *The Revenant* into the VW320ES is immediately pretty revealing – and not in a wholly positive way.

The good news is that the projector does superb justice to the stunning resolution of the movie's UHD transfer. Its ability to precisely map every pixel in the image gives it a clear resolution and clarity boost over any pseudo 4K technology I've seen, including JVC's latest-generation eShift 4K system. There really is no replacement for the real 4K deal where resolution is concerned, particularly when you're talking about pictures as big as those you can enjoy from a PJ – the Sony will handle screen sizes from 60in to 300in, with a nicely flexible throw ratio of 1.38-2.83:1.

The VW320ES also features impressive motion handling, helping it retain sharpness during *The Revenant*'s early battle sequence with the Native American tribe. Actually, thanks to Sony's always-impressive Reality Creation engine, even HD sources look crisp, detailed and clean once they've been remapped to the VW320ES's SXRD 4K chipset. Though nothing compares to the full glory of native 4K content.

While the projector does a stellar job of reproducing the resolution of Ultra HD Blu-ray, it's on less safe ground with high dynamic range. Here, dark areas can

'The projector is fantastically easy to setup, with extensive amounts of motorised zoom and image shift adjustment'

look too dark and silhouetted (especially when they appear against a bright backdrop) and dark colours can appear a little strained and unnatural. In comparison to a top-flight TV experience, it lacks real impact.

The VW320ES also apes JVC's HDR approach in actually reducing the overall brightness of the picture to give itself the luminance 'room' needed to create a sense of the wider HDR light range. Furthermore, the projector has to use its lamp on its highest power setting for HDR playback, meaning it generates markedly more fan noise than it does if you use it in Low lamp mode with standard dynamic range material.

To be fair, the Sony delivers real HDR light peaks with more punch than you see with SDR content, and has enough control over its light system to deliver a slightly enhanced sense of sharpness and detail with HDR. I was also pleased to see how consistently and effectively the VW320ES detected the presence of HDR feeds arriving at its HDCP 2.2 input, always managing to switch automatically to the new firmware-added HDR colour profile Sony has come up with.

Overall, though, while HDR on the VW320ES has its moments, I ultimately found standard dynamic range content more natural and engaging to watch. So if you're really keen on watching HDR on a projector, I'd suggest trying to muster the extra £3,000 needed for Sony's VPL-VW520ES, where having more brightness to play with significantly boosts performance.

On the firing range

The VW320ES's underwhelming HDR performance isn't necessarily a deal breaker, though (especially if you partner it with Panasonic's UB900 Ultra HD Blu-ray player,

'The pleasure in viewing native 4K sources on a projector screen via a native 4K projector never grows old'

which allows you to turn HDR off). JVC's DLA-X7000 didn't really convince with HDR playback either, yet its standard dynamic range performance proved irresistibly good. Unfortunately, though, the VW320ES suffers with another general flaw: a pretty middling contrast performance considering its asking price.

Dark sequences are impacted by really quite noticeable greyness hanging over parts of the picture that should otherwise look black. This hides detail, reduces the sense of image depth, gives colour reproduction less of a solid background to work with, and generally makes such scenes appear less convincing and cinematic than bright ones.

Nothing I could do with the projector's contrast-related features solved this greyness issue as well as I would have hoped, even with the lamp-life increasing and black-level boosting Low lamp mode in action. And this is even more regretful when JVC's DLA-X7000 delivers an absolutely phenomenal black level/contrast performance with standard dynamic range content – as well as a gorgeous colour response.

Regarding the Sony's other uses, bigscreen gamers will find solace in a very respectable measured input lag of just 32ms. As for 3D playback, this unfortunately went untested as Sony couldn't provide any 3D glasses,

SPECIFICATIONS

3D: Yes. Active **4K:** Yes. 4,096 x 2,160 **HDR:** Yes. HDR 10 **CONNECTIONS:** 2 x HDMI inputs (one HDCP 2.2); 2 x 12V trigger outputs; RS-232 port; Ethernet port **BRIGHTNESS (CLAIMED):** 1,500 ANSI Lumens **CONTRAST (CLAIMED):** N/A **DIMENSIONS:** 496(w) x 202(h) x 464(d)mm **WEIGHT:** 14kg

FEATURES: 6,000 hours claimed lamp life (in Low lamp mode); black or white finish options; 26dB minimum fan noise; Reality Creation upscaling processing; 330W power consumption; 11 gamma modes; nine picture modes including User for saved settings; motorised zoom/focus/image shift; 1.38-2.83:1 throw ratio; 300in max image size; Triluminos colour; wireless HDMI support via optional IFU-WHI system

PARTNER WITH



FUTURE AUTOMATION PD3.5:

For an alternative to ceiling-mounting, this motorised drop-down projector lift lets you hide a PJ in a ceiling void when not in use. Ideal for stealth setups, it sells for a cool £4,200 approx

and the TDG-BT500A active shutter spex aren't included in the box.

Battle of the HDR beamers

Sony's VPL-VW320ES is a decent projector in itself, with excellent setup features, user adjustments and a classy construction. The pleasure in seeing 4K sources appearing on a big screen via a native 4K projector never grows old. Certainly, Sony's projector outperforms the rival JVC model in this respect, yet JVC's DLA-X7000 model fares better in other picture quality departments, particularly where contrast is concerned. Neither present the most engaging HDR experience with Ultra HD Blu-rays, though... ■

HCC VERDICT



Sony VPL-VW320ES

→ £5,850 → www.sony.co.uk

WE SAY: The VW320ES sells its native 4K resolution well, but struggles a little with HDR and ultimately falls short of its closest rival

3. Of the projector's dual HDMI inputs, only one supports HDCP 2.2

3





SERIE T/i



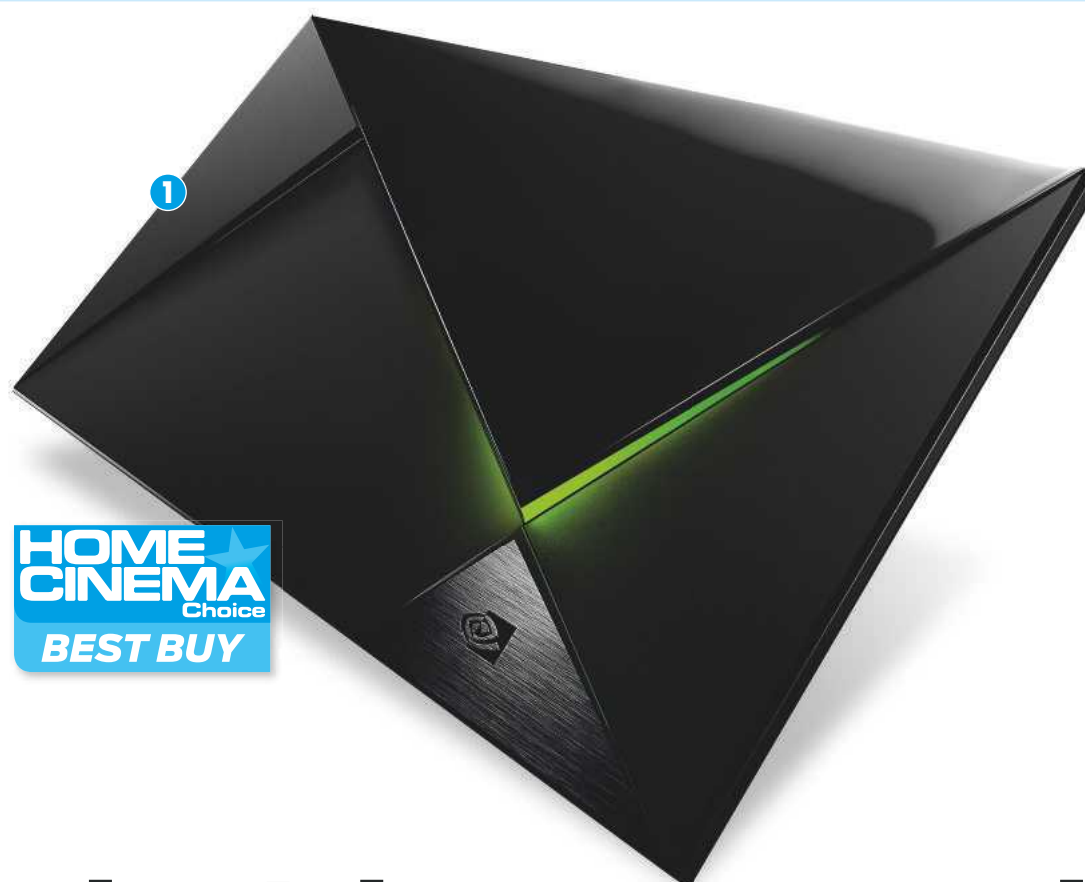
T/7i (left) shows proprietary Arrow™ zero compression wireless connector upper corner.
T/9i (right) features new Fiberallloy™ ultra-fast driver.

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Android TV gets the hardware it deserves

The Shield Android TV is Nvidia's first set-top box, serving as a smart TV add-on, games console and 4K media player. And, says **Eric Beekmans**, it has the power to pull it off

NONE OF US are particularly fond of additional devices under our televisions. But I'm willing to bet many would make an exception for this little box of tricks. Available for £150, Nvidia's multi-functional Shield TV promises a lot. And thankfully it's not a Jack of all trades, master of none...

Design is fabulous. The striking top is reminiscent of folded paper, finished in a combination of matte, glossy, and brushed black and accented with a V-shaped green light. Combined with the slim and slightly irregular

rectangular shape and sharp corners, the Shield has an almost mysterious look – a *2001: A Space Odyssey* monolith that awakens and offers a glimpse of the power within. Sure, it is small enough to tuck away out of sight, but it really wants to be seen.

At the rear you'll find an HDMI output, a Gigabit Ethernet connection, two USB 3.0 ports, a microUSB 2.0 and a microSD card slot. Wireless connections are

on offer as well – there's Wi-Fi 802.11ac and Bluetooth 4.1. The latter can be used for wireless headphones or compatible controllers.

That's plenty of options, but the most important is the HDMI connection. This is HDMI 2.0 with HDCP 2.2 support, making it suited to Ultra HD video up to 60fps. Better yet,



AV INFO

PRODUCT:
Android-powered media player/games console

POSITION:
Nvidia also sells the Shield Tablet K1

PEERS:
Roku 3;
Amazon Fire TV

the port can and will (according to Nvidia) be upgraded to HDMI 2.0a so the player will handle HDR content.

Fast and furious

Looking at the hardware specifications it is clear the Shield is a bit of a powerhouse. The quad-core Tegra X1 processor has 3GB of RAM at its disposal; the GPU is a 256-core Nvidia Maxwell. It's certainly high-spec. My version came with 16GB of internal storage, which is expandable via USB or microSD up to 128GB. A more expensive version (£220) of the Shield (the Shield Pro) comes with 500GB storage.

All that power makes quite the difference for the user experience. The interface never hesitates, never stutters and whatever you do, the Shield responds smoothly. Even games run at a brisk pace. In this regard, the Shield is so good that it almost puts the current crop of Android TVs to shame. I'd venture that this is Android TV the way it was meant to be.

So what's the user interface like? The Shield runs Android 6 (Marshmallow), but visually it is pretty much the same as that on any Android TV. All content is presented in horizontally scrolling bars with large tiles, and the interface takes up the entire screen. At the top you'll find recommendations by Google, mostly from YouTube and Google Play Movies. Next is the bar with gaming functions: Shield Games, GameStream and GeForce Now, followed by a row of all your installed apps. At the bottom, you can access settings. I had no unexpected crashes, a problem that unfortunately remains a bit too common on other Android TV devices.

You'll find no classic remote in the box, but as befits a gaming console the Shield comes with a controller. This is generally excellent, although some may consider it a tad too large. It can be used wired or wirelessly, and offers a stereo minijack for your favourite pair of cans. A microphone is built in, so you can use Google's voice search function.

An optional remote is available, which looks a lot like the simple Apple TV remote. At £40, I'd suggest it's a bit pricey. If you want a cheaper alternative, you can install the Android TV Remote Control app on your smartphone, or hook up a USB or Bluetooth keyboard and mouse. And for basic functionality, such as the D-pad and OK button, you can try using your TV's remote, provided the screen supports HDMI CEC.

Gaming is the central premise of the Shield, and it offers three options to get your favourite titles on screen. First off are the Shield games. Download these Android titles from the Play Store, and you are good to go. Pretty much all genres are offered – you can check the full list at <https://shield.nvidia.co.uk/games/android> – with some free.

The second option is GeForce Now. This is a streaming service, so games no longer run on the Shield but from a cloud server. You'll need a beefy internet connection for maximum quality, though. A 10Mbps connection is the absolute minimum; 20Mbps will get you 720p at 60fps and with 50Mbps you'll enjoy 1080p60. There are around 60 titles available, including the likes of *Warhammer 40K: Space Marine*, *Lara Croft and The Guardian of Light* and *Darksiders II*. GeForce Now is free during the first three months, after which you'll have to pay £7.50 a month.

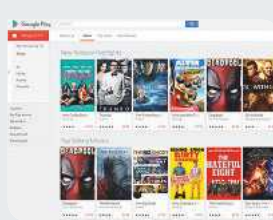
If you own a PC with an Nvidia GPU, then GameStream is your third gaming option. This allows you to play selected games, including *World of Warcraft*, *League of Legends* and *World of Tanks*, through the Shield; the games run on your

SPECIFICATIONS

CONNECTIONS: 1 x HDMI output; 1 x Gigabit Ethernet; 2 x USB 3.0; 1 x microUSB 2.0; 1 x microSD slot **HARDWARE:** Nvidia Tegra X1 processor with 256-core GPU and 3GB RAM; 16GB internal storage (expandable via microSD or USB); Wi-Fi 802.11ac and Bluetooth 4.1 **APPS:** Netflix (4K); YouTube (4K); BBC iPlayer; BBC News; BBC Sport; Google Play Movies & TV; Vevo; MUBI; TuneIn Radio; Google Play Music; Plex; Kodi; VLC for Android; Tellybean video calling **DIMENSIONS:** 210(w) x 130(d) x 25(h)mm **WEIGHT:** 0.65kg

FEATURES: HDMI 2.0, HDCP 2.2; 4K up to 60fps playback; Dolby Digital/TrueHD, DTS/DTS-HD MA passthrough; H.264, H.265 and VP9 video codec support; hi-res audio support (24-bit/192kHz); game controller; optional remote; optional stand; Nvidia GeForce Now game streaming; Nvidia GameStream

PARTNER WITH



GOOGLE PLAY MOVIES AND TV:

The internet giant's video-on-demand platform offers a sizable collection of new-release flicks in HD. Pricing is £4.49 for a 30-day (but 48-hour play window) rental, and £13.99 to purchase outright.

PC and the GeForce Experience software streams them to the set-top box. I tested this with *Hearthstone*, which ran perfectly, although *World of Tanks* was a bit quirky, with less impressive video quality and overly sensitive controls. Still, after some fiddling with the settings it was very playable.

As for movies, the Shield continues to impress. Content options include Google Play Movies and TV, and Netflix and YouTube (with 4K material supported on both). As expected, BBC iPlayer is present (as well as BBC Sports and News apps), although other UK catchup is currently poorly supported. Apps from ITV, Channel 5 and C4 are conspicuous by their absence.

Being an Android device, the Nvidia obviously supports Google Cast, letting you throw supported content from smartphones/tablets. More importantly, the Shield is an extremely capable local or networked media player. It effortlessly played through a tranche of my video test files, even those using HEVC or VP9 codecs. DTS-HD MA and Dolby TrueHD passthrough is supported.

The built-in player is adequate but for the best experience I'd recommend buyers install VLC, MX-player, Plex or – better yet – Kodi, which transforms the Shield into a true media centre. Kodi will also handle your music library, even lossless formats such as ALAC or FLAC.

Sci-fi-styled stunner

The Nvidia Shield is an eye-opening Android TV addition. Yes, the actual interface could use a bit of spit and polish, but the powerful hardware in this sci-fi-styled gadget makes it a very pleasant experience. It's a great gaming console, an excellent media player, is 4K-capable and will get an HDR upgrade, too. The 500GB version seems a bit expensive, but the 16GB version can be easily expanded ■

1. The Shield's angular casework hides a potent quad-core Tegra X1 processor

2. The tile-based UI will be familiar to Android TV owners

HCC VERDICT



Nvidia Shield Android TV

→ £150 → shield.nvidia.co.uk

WE SAY: Not just a proposition for gamers, this smart-looking slab brings zippy catchup TV and solid media-playing chops. It's well-priced, too, considering the spec.



The Transporter...

The second generation of Philips' ultra short-throw Screneo projector delivers wall-filling entertainment in any room, enthuses **Steve May**

PHILIPS' ORIGINAL SCRENEO, which debuted back in 2014, was perhaps the first home entertainment projector to liberate the ultra short-throw ethos from the boardroom/classroom and re-imagine it for regular living spaces. Now with this second iteration, Philips has refined the concept further.

The basic idea remains unchanged, of course – what we have here is designed as a portable display system that can be deployed anywhere around the house. Philips wants you to use it for movie nights or sporting get-togethers, gaming sessions or kids' Pixar parties. If you can rig up a screen and provide power, you could even watch *al fresco* on a balmy Summer night.

Unlike everyday home theatre light cannons, an ultra short-throw projector needs only to be close to a wall to cast a humongous image. So there are no worries about walking in front of the beam, or wrestling with a suitable location. Floor or furniture will do fine.

The Screneo 2 (also known as the HDP2510) flaunts an unusual yet practical design. It looks not unlike a portable sound system and comes with a substantial carry handle, stands tall at 385mm and weighs a hefty 8.3kg.

The lens fires upwards, while on-body controls ape those found on a boom box. For lugging it around, there's a cool-bag-style carry case.

A different beast

As well as the cosmetic differences between the Screneo 2 and its predecessor (which used a squatter form factor), there's a key tech upgrade here – this model fires images with a Full HD resolution, instead of 1,280 x 800. Obviously, this makes it more of a potential purchase for Blu-ray fans.

Connectivity has changed considerably, too. Once again there are three HDMI inputs (two on the rear, one on the side behind a little flap, next to a 3.5mm headphone jack), plus composite video with stereo phono and a VGA PC input. There's also an optical audio output if you want to partner it with separate audio gear, plus the Screneo 2 is Bluetooth-enabled, should you want to take advantage of its onboard speakers to stream tracks (not that this should be considered a hi-fi product). A 12V trigger means you could also integrate Philips' projector into an automated cinema system. But gone from the spec list,

AV INFO

PRODUCT:
Ultra short-throw
Full HD projector

POSITION:
Philips' premium
short-throw
projection option

PEERS:
Optoma GT5000;
Epson EB-580

though, are the media-playing USB inputs, SD card slot, DVB-T tuner and Wi-Fi connection. The original Screeneo was a smart cookie, this model isn't.

Obviously, the size of image projected by the Screeneo 2 is dictated by how much wall space you have available. I was able to fill the width of an entire wall (3.5m to be precise); naturally, the image grows as you walk the projector further away from the surface. The throw ratio is 0.21:1. The unit is 3D ready (and offers a 2D-3D conversion mode) but isn't bundled with any glasses.

High-impact home entertainment

It pays not to compare the Screeneo 2's performance to a dedicated home theatre projector/screen combo. That's not really the point of the product category. This is all about no-fuss, high-impact entertainment. That said, it puts in a good showing.

The projector uses a DLP picture engine with a six-segment (RGBRGB) colour wheel. I tend to be susceptible to rainbow fringing, so was pleased that here it wasn't an issue. Illumination is via a UHP lamp, which contributes a maximum brightness of 2,000 Lumens. Philips quotes a healthy lamp life of 10,000 hours, although the previous Screeneo, which used an LED light source, claimed a lifespan three times greater.

For setup and general operation, you get a (very directional) IR remote control that offers adjustable focus. The trick is to try and maintain clarity at the edge of the picture, as this is usually the first place to fuzz-up on an ultra short-throw projector. Thankfully, the Screeneo 2 actually does a good job maintaining clarity across the frame.

Adjustable image parameters comprise Brightness, Contrast, Colour saturation and Sharpness. The lamp brightness has three modes, too: Primetime, Cinema and Daylight. The latter cranks up the lamp to full output, but increases fan noise as a result.

The Screeneo 2 boasts powerful picture processing, dubbed Flow Motion, for superior motion handling. When engaged, it retains image detail up to 1080 lines, but adds motion artefacts in addition to that characteristic soap opera sheen. While perhaps fine for sport, this doesn't look particularly cinematic. For Blu-ray viewing, I definitely preferred Flow Motion off. Here, subjective motion resolution dips to around 650 lines, but the picture becomes much more filmic.

Most buyers will use the Screeneo 2 with a white wall, but not everyone has perfect plaster to hand. So there's wall compensation to optimise the image for white, beige, green and grey paint jobs.

The projector is certainly bright enough for use in moderate ambient light, although you'll really want a darkened room environment for the best contrast (Philips claims it has a ratio of 200,000:1) and colour vibrancy. And regardless of how much you tweak the image, it never manages to achieve a solid deep black. On the other hand, *The SpongeBob Movie: Sponge Out of Water* (Sky Cinema), which is brightly-hued eye candy, looked great, with crisp details and plenty of pop.

SPECIFICATIONS

3D: Yes. DLP Active Shutter (no glasses supplied) **4K:** No. 1,920 x 1,080 Full HD **CONNECTIONS:** 3 x HDMI inputs; composite video; stereo audio input; PC VGA input; 12V trigger output; optical digital audio input; headphone output **BRIGHTNESS (CLAIMED):** 2,000 Lumens **CONTRAST RATIO (CLAIMED):** 200,000:1 **DIMENSIONS:** 315.5(w) x 281.9(h) x 248.8(d)mm **WEIGHT:** 8.3kg

FEATURES: DLP single-chip projector with six-segment colour wheel; Bluetooth streaming; onboard 2.1 sound system (rated at 26W); 10,000-hour claimed lamp life; 250W Philips UHP Image Life lamp; Flow Motion image interpolation; wall colour correction; 0.21:1 throw ratio; Primetime, Cinema and Daylight modes; 25dB claimed fan noise in cinema mode; 2D-3D conversion

PARTNER WITH



NOW TV: The first Screeneo had an onboard TV tuner; its sequel doesn't, so hook a £15 Now TV box into one of its three HDMI inputs for catchup TV from the four major UK broadcasters and subscription sport/TV/movie content from Sky.

While imagery is fine if not fabulous, sonically the package is a quantum leap over the kind of weedy 1W sound systems usually built into projectors. The onboard speaker setup features an integrated subwoofer, with total power output (optimistically) rated at 26W, and there's certainly enough grunt available to entertain without recourse to additional speakers. Iron Maiden's *Fear of the Dark*, from *Flight 666* (Blu-ray), is gutsy enough not to be a metalhead embarrassment.

The soundstage is inevitably narrow though. In the menu you'll find a Wide Sound mode, but this amplifies treble in a harsh and unpleasant way. There's also a bunch of EQ presets, but they don't offer any significant variety. And my review sample often emitted an ugly pop when turned on or negotiating a signal via HDMI, which was a bit annoying.

Better by design

The Screeneo 2.0 is a lot of fun. Not everyone has the space for a dedicated home cinema projector; this portable model is supremely easy to accommodate, and it allows bigscreen viewing in a multiplicity of rooms (size isn't a problem). The unusual form factor, with decent integrated sound, also gives it an edge over more conventional competition like the (admittedly £500 cheaper) Optoma GT5000. And while some may miss the extra features of its forebear, I prefer the improved visuals ■

1. The Screeneo 2.0 is designed to throw its image onto any wall you want

2. There's a 2.1 speaker system lurking in the projector's chassis



HCC VERDICT



Philips Screeneo 2.0 (HDP2510)

→ £1,500 → www.philips.co.uk

WE SAY: This easy-to-use transportable combines a solid HD performance with bombastic sound. Great for popcorn movie screenings, sports events and gaming sessions

Libratone Zipp Copenhagen

Is there more to this wireless speaker than its tactile finish? **Adrian Justins** investigates

LIBRATONE'S IMPRESSIVE

LOUNGE was a woolly mammoth of a soundbar, in that it was practically coffin-sized and came with a fetching grey wool cover. It is now extinct but the wool fabric has been resurrected to appear on the limited edition Zipp Copenhagen portable, wireless speaker. This is as big and weighty as a sand-filled rugby ball, so I wouldn't plan on chucking the Zipp in your suitcase this Summer. It's fine for shifting around the house and garden, though, thanks to a leather carry handle.

The Zipp feels solidly built and has a 10-hour rechargeable battery. It can stream music from Apple hardware (AirPlay), while



Bluetooth is provided for Android devices, plus there's a 3.5mm input and USB port for charging mobile phones. The Zipp can also operate as a music player in a DLNA environment.

Operating the unit using the clean, intuitive app is easy and enjoyable, or you can use the gesture-sensitive plastic button on top to play/pause (including Spotify Connect), alter volume and scroll through five preset internet radio stations. You can build a network of up to 18

speakers (including the more affordable Zipp Mini), but in groups of no more than six. Inside, a 100W Class D amplifier feeds a 4in

woofer and two 1in tweeters, plus there are two 4in passive radiators, all placed so the sound spreads out in a circle. It proves to be a reasonably potent concoction – the Zipp has more than enough power to fill a small-to medium-sized room, and fed good-quality sources will create an acoustically satisfying soundfield. With Daft Punk's *Get Lucky*, the basslines enjoy good timing and reasonable punch, although the extension feels somewhat constrained. There's a nice balance between middle and upper frequencies, and these have more energy, with vocals resonating solidly. Although not the last word in clarity everything feels coherent and has plenty of, ahem, zip. An impressive multiroom contender ■

HCC VERDICT



Libratone Zipp Copenhagen
→ £290 → www.libratone.com

UK.WUAKI.TV/£PAY-PER-VIEW

Wuaki.TV

Mark Craven checks out a movie/TV download platform that's undergoing a change of tack

VIDEO ON DEMAND service Wuaki.TV has been around since 2009, first launching in its native Spain. Now owned by Japanese e-commerce giant Rakuten (also the owner of Play.com) it's spreading its wings in the UK, and is available via the smart platforms of TVs from Panasonic, LG, Sony, Philips, Hisense and Samsung.

Yet where once it offered both a monthly subscription model and one-off content views, it has ditched the former; films and TV series are only now available to either rent or buy. Pricing varies considerably depending on content, and with TV shows renting is not an option. As an example, *Deadpool* can be rented in SD for £3.45 or HD for £4.45, and purchased outright in either format for £9.99, while buying

Season Two of *Gotham* will set you back a whopping £34.99.

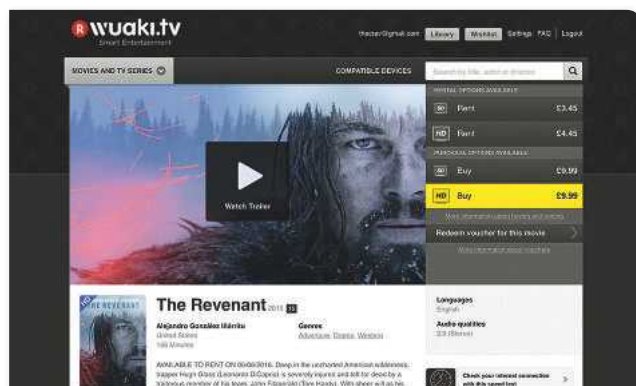
The service allows for UV digital copies of purchased Blu-rays to be viewed too, if that's your thing.

Wuaki.TV's content offering is surprisingly decent. There's a dedicated HBO section with premium TV shows, and flicks

available at the time of writing included *The Revenant*, *The Peanuts Movie* and the aforementioned *Deadpool*, with *X-Men: Apocalypse* and *Captain America: Civil War* listed as coming soon. There are also a few movies available for free – *Big Buck Bunny*? No, me neither...

Interestingly, UHD is also on the menu, although the current titles offered are pretty obscure (ski documentaries, indie flicks).

Sign-up to Wuaki.TV is free, so by all means check it out, and look for special deals (a *RED/RED 2* double-pack HD rental for just £2.50 seems good value). A Netflix-aping interface makes navigation easy – but the lack of a monthly all-you-can eat option certainly counts against it ■



Wuaki.TV also offers a desktop app

HCC VERDICT



Wuaki.TV
→ £Pay-per-view → uk.wuaki.tv

Panasonic

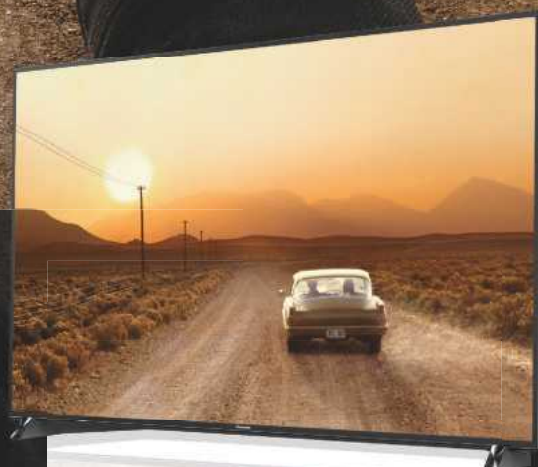
MASTERING THE MAGIC OF LIGHT
TRUE TO THE DIRECTOR'S VISION

VANJA ČERNJUL, ASC
DIRECTS 'CONVERGING BEAMS'

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Introducing our new DX902 televisions, available in 65" and 58". Thanks to High Dynamic Range (HDR), every picture is faithfully reproduced as the filmmaker intended, with stunning clarity and incredible detail even in high-contrast conditions. Tuned by Hollywood professionals to achieve industry-benchmark Ultra HD Premium™ and THX® 4K certification, the power of pure cinema is now showing in your home.

See Vanja's short film in-store to truly appreciate the 4K HDR difference, or see his take on HDR at panasonic.co.uk/4KPro



Smart but small

Freeview Play and Firefox OS lend this 40in Panasonic Ultra HD set slick usability, but is that enough to convince **Jamie Carter** it's a worthy partner for his disc collection?



THIS IS PANASONIC'S best-value Ultra HD 4K TV. Priced to compete with similar efforts from Sony and Samsung, where the TX-40DX600 stands out is with its smart stuff. While most brands have moved beyond the full-screen smart hubs and on to pop-up apps and accelerator bars along the bottom of the screen, Panasonic goes its own way with its slick Firefox OS and, crucially, Freeview Play integration. It's a killer combination for a living room.

Powered by a Quad Core PRO processor, Firefox hangs on a home screen that contains, by default, just three icons; Live TV, Apps and Devices. As such, it's simple to navigate, though there are excellent customisation

opportunities – almost any other app or feature on the TX-40DX600 can be 'pinned' to that opening screen. The obvious choice is the Freeview Play app, which gives you one-touch access to 'roll back' TV from the BBC iPlayer, ITV Player, 4oD or Demand 5 apps.

Netflix or Amazon subscribers will want to pin those apps to the home screen, too, though it's just as easy to pin YouTube, a Firefox browser, a USB stick, or a link to TV recordings (which can be made from Freeview HD to a USB drive). In terms of simplicity, it's stunning.

HDR? Not here

Away from the smart stuff and on to the real nitty gritty. The TX-40DX600 is a 40in LED-lit LCD with 3,840 x 2,160 resolution panel. Two of its three HDMI inputs will handle 4K sources and support HDCP 2.2, but buyers should note that HDR is not an option – not least because this is an 8-bit (rather than 10-bit) panel. Furthermore, 3D is given a cold shoulder. There's an argument that stereoscopic movies don't fare well at 40in, of course.

It's a flat, rather than curved, TV with a barely 5mm-wide screen surround and flexible feet design. This pair of clip-on tootsies can be angled either to curve in or out, turning through 180 degrees, and at either wide or narrow locations. The build quality of these feet – like the TX-40DX600 itself – is a tad lightweight, but all orientations lend a floating look that's impressive for a mid-range set.

In use, this edge LED VA panel offers clean, colourful and fluid images that are unlikely to disappoint. Frame interpolation together with

SPECIFICATIONS

3D: No. **4K:** Yes. 3,840 x 2,160 **TUNER:** Freeview HD with Freeview Play
CONNECTIONS: 3 x HDMI; 2 x USB 2.0; Ethernet; component video; composite video; optical audio out; headphone jack; RF input
BRIGHTNESS (CLAIMED): Not quoted
CONTRAST (CLAIMED): Not quoted
SOUND: 2 x 10W
DIMENSIONS: 904(w) x 518(h) x 49(d)mm
WEIGHT: 12kg
FEATURES: My Home Screen 2.0; Quad Core Pro; 800 BMR (Backlight Motion Rate); 8-bit panel; 4K Pure Direct; Dolby Digital Plus; Wi-Fi; DLNA player

The Panasonic's twin feet can be installed in four different configurations to suit your setup

the TX-40DX600's backlight scanning results in a smooth performance with 4K football, where the quick camera pans don't produce distracting blur or softness. *Marco Polo* streaming in 4K from Netflix (made possible by the TX-40DX600's HEVC decoding) demonstrates subtle colour definition, with the shadows of Kublai Khan's court pleasingly free of light spillage from that edge LED backlight.

Black levels are good with minimal crushing, but there's an inescapable feeling that full-on 4K detail just isn't at its best on the Panasonic's 40in screen. A viewing of *The Martian* on Ultra HD Blu-ray confirms that, with the drama flick losing its wow-factor in comparison to a larger display.

While 4K looks crystal clean, if not as finely detailed as hoped, standard-definition and HD TV channels are perfectly watchable. So too videos stored on a USB stick, with the Panasonic presenting clean playback of a surprisingly wide choice of formats, including AVC HD, MPEG, MP4 and AVI, as well as 4K-rendered files in the MKV, MP4 and TS formats. The screen offers audio that's nothing more than average, however, although the virtual surround mode is worth selecting, as this does seem to open up the soundstage a touch.

Second room shortlist

It may lack true sparkle with 4K, but there's much to like here. In terms of styling, usability and general image punch the TX-40DX600 impresses. Those not able to accommodate a larger screen – or who want a well-featured second room set – should consider ■

AV INFO

PRODUCT:
40in 4K TV

POSITION:
Panasonic's entry-level range where 4K is concerned

PEERS:
Samsung UE40KU6400; Sony KD43X83

HCC VERDICT



Panasonic TX-40DX600

→ £550 → www.panasonic.co.uk

WE SAY: A well-specced TV that will suit space-constrained movie dens, although Ultra HD detailing at 40in isn't a show-stopper

Stormtrooper/C-3PO BT speakers

These sonic *Star Wars* collectables are ridiculously desirable says **Steve May**

THESE STAR WARS licensed Bluetooth speakers are cooler than a Wampa's ice cave. Available in classic Stormtrooper or C-3PO guise, both enclosures are immaculate simulacrum boasting admirable attention to detail. The 'trooper is finished in glossy white plastic, while Threepio has an authentic metallic sheen. They're sizeable too, standing 28cm/30cm respectively and weighing 2.3kg.

Each helmet sits on a black plastic plinth. To the rear are power, 3.5mm input jack and USB charging ports, while at the front are (not particularly responsive) moulded buttons for volume, input selection and call connection. There's also an NFC contact point for easy pairing. No NFC? Just Bluetooth it like they did in the Old Republic.

The audio system has been cleverly integrated into the design – a close look reveals a pair of 32mm drivers glaring through the eye holes – and there's a downfiring 4in bass driver, too, to pad out the soundfield.



And it's got to be said, these *Star Wars* speakers are a lot more fun than the average wireless box. When paired, eyes glow and each speaker acknowledges the connection with a catchphrase. The Stormtrooper urges you to 'go about your business' while C-3PO retorts 'I do believe they think I am some sort of god.' There's a rechargeable 2200mAh battery if you want to take them on a picnic to

The Bluetooth speakers use a 2.1 driver array

Dagobar; it requires around 2-3 hours to fully charge, and runs for between 4-5 hours.

In use these offer a good amount of volume with a fair chunk of heft coming from that bass unit. Given 10W of onboard juice, it adds tangible weight to the lesser-powered tweeters. In a sound off, I rate C-3PO slightly ahead of the Stormtrooper, but then you would expect a protocol droid to be somewhat more articulate.

Overall, the force is strong in these intergalactic collectables. They'll make a fun addition to any *Star Wars*-loving cinema room. But can we please have Darth Vader next time? ■

HCC VERDICT ★★★★★

Stormtrooper/C-3PO Bluetooth speaker
→ £150 each → www.acworldwide.co.uk

WWW.OPTOMA.CO.UK/£480

Optoma ML750ST

This portable beamer appeals to **John Archer** when it comes to picture performance

OPTOMA'S ML750ST PROJECTOR has a fairly unusual 'killer app' – the claimed ability to deliver movie-friendly pictures from a box that weighs less than half a kilogram and fits comfortably in one hand.

It wears its smallness prettily thanks to a bold white and black colour scheme and cute lens barrel bulge. Connections surpass expectations, with HDMI, USB, SD Card and

headphone jack support. The USB and SD inputs even play Microsoft Office, PDF, photo, video and audio files with no PC required.

Despite its nods to office uses, though, the ML750ST's DLP projection engine really can do video properly. Its short-throw lens delivers a 100in image from a throw distance of just over a metre, and its pictures are remarkably good for a 'convenience' projector.



Black levels, for instance, are excellent, suffering little with low-contrast greyness. Everything looks detailed and deep. Colour performance is even better, as a REC.709 preset produces colours so natural and video-friendly they humble more expensive, full-sized models.

The PJ doesn't enjoy a Full HD resolution, but still delivers crisp, clean pictures from its 1,280 x 800 pixels, bolstered by impressive motion handling. And unlike most ultra-portable projectors the ML750ST is bright enough to support a 100in image in a dark room – though you'll need to reduce screen size if there's ambient light to contend with.

It does feel slightly expensive at £480, and its pictures inevitably have some negatives. I noticed signs of rainbow-like striping over very bright objects, a little colour noise, and some jaggedness around edges. Still, if its form factor is appealing to you, no similarly tiny projector I've seen gets close to the video performance of this Optoma ■



The ML750ST offers a 1,280 x 800 resolution

HCC VERDICT ★★★★★

Optoma ML750ST
→ £480 → www.optoma.co.uk

Sony gets groovy

The PS-HX500 is a modern spin on the vinyl record player, with integrated phono stage and high-res audio recording software. **Steve May** goes retro with his music



The deck hooks up to a PC for vinyl ripping

THE VINYL RENAISSANCE and hi-res audio may seem odd bedfellows, but that's exactly what we have with Sony's PS-HX500, the first turntable that allows you to rip up to double DSD, and hi-res WAV files, via an integrated phono stage. This explains the gold 'Hi-Res Audio' badge on the plinth. So should you be planning to add this hi-fi hybrid to your AV system?

Certainly, the PS-HX500 is a handsome beast. The design is minimalistic and clean, with fashionably straight tone arm and a Batcave paint job. And while it's not the world's most expensive deck, build quality

isn't a concern. The 30mm plinth is made from heavy density fibre-board, while counterweight and capstan are hewn from brass.

Connections include an analogue stereo line output, with ground terminal if you need it, plus USB-B for PC

hookup. Thanks to that onboard equalizer, you don't need an amp or receiver with a dedicated phono input to use it. Simply flick the line-level switch and connect the deck to your system like any other analogue audio device.

The partnering hi-res recording software is available from Sony's website and handshakes with the turntable when powered up. The idea is that you can backup that first pristine needle drop in the best possible audio recording format. You can then listen back on compatible portable players, or via a Blu-ray deck or AVR.

Jack up the ripper

The software is extremely simple to use. It's available for both Windows and Mac, and has an idiot-proof interface. Just a stereo time-line, plus big 'record' and 'pause' buttons.

Available recording formats are WAV or DSD. The latter is offered at 2.8MHz or 5.6MHz. WAV bit-depth and sampling frequency can be set independently, either 16-bit/24-bit with 44.1kHz, 48kHz, 96kHz or 192kHz sampling. Maximum recording time is 80 minutes per session.

SPECIFICATIONS

TURNTABLE SPEED: 33.3rpm/45rpm

CONNECTIONS: Stereo audio; USB-B

RIPPING FORMATS SUPPORTED: DSD 2.8MHz and 5.6MHz; 16-bit and 24-bit WAV, up to 192kHz

DIMENSIONS: 430(w) x 104(h) x 366(d)mm

WEIGHT: 5.4kg

FEATURES: Integrated phono stage equalizer; belt-drive turntable; aluminium die-cast platter; lightweight straight tone arm; 3g MM cartridge

The software is barebones in many respects. Beyond adding track markers there's not much more you can do with it. To tag and add metadata or art to WAV, you'll need additional third-party software. When you stop a recording, your 'album' is finished and you can then write your recording in your chosen format.

The turntable makes a good source, too, as its audio performance is on the money. There's no overt sibilance or stridency, it's very musical and able to create a wide spacious soundstage. This is captured perfectly in DSD.

A rip of *Caress of Steel* (Rush) is distinguished by pinpoint imaging. There's a great sense of spatial depth in the HX500's soundstage that really brings air to the recordings. The wide dynamic range of DSD also does a fabulous job of capturing the energy of *Clash City Rockers* and *New Hope For the Wretched* (The Clash and Plasmatiks, respectively). I can categorically confirm, though, that coloured vinyl has no influence on the fidelity of recordings.

While DSD may be the audiophile codec of choice, it's worth bearing in mind not everything will play the format, and Double DSD in particular could be a challenge. Sony's own UHP-H1 audio video player is obviously compatible, and I also had luck with an Oppo Blu-ray player, but check before you rip. And if you want to fancy-up your recordings with album art and other metadata, then WAV is the best to go.

Overall, the PS-HX500 is a crafty mix of retro hi-fi and digital hi-res audio. In pure turntable terms, it's probably priced on the high side for its performance, but the power and simplicity of the partnering recording software does much to justify that premium. If you want to back-up an existing library of vinyl, or simply want to preserve new record purchases, it's a cracking proposition ■

AV INFO

PRODUCT: DSD-ripping vinyl record player

POSITION: Sony's debut hi-res audio turntable

PEERS: Flexson VinylPlay; Audio-Technica AT-LP5

HCC VERDICT



Sony PS-HX500

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WE SAY: An inspired attempt to integrate vinyl into a hi-res audio entertainment system. It's chic, easy to use and sounds... groovy



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WIN: A ViewSonic Pro7827HD Full HD projector!

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THIS ISSUE WE'VE teamed up with leading video specialist ViewSonic to give away one of its Pro7827HD projectors. Reviewed in our last issue, where it was awarded an *HCC* Best Buy badge, this Full HD PJ brings excellent bigscreen images to your cinema room and a wealth of features. Enter our competition to be in with a chance of winning!

Home cinema companion

The latest in ViewSonic's LightStream range, the Pro7827HD (£700 approx) is aimed at home cinema enthusiasts, with native 3D support, an eye-catching claimed contrast ratio of 22,000:1 and a brightness output of 2,200 Lumens. It's based around a 1,920 x 1,080 DarkChip3 DMD with TrueBlack enhancement, used in conjunction with an RGBRGB colour wheel. Lamp-life is rated at 6,500 hours when the projector is used in its contrast-enhancing eco mode.

Connectivity is comprehensive, with no fewer than three HDMI inputs in addition to composite, component and S-Video ports, plus D-Sub connection for PCs. One of the HDMI is housed in a concealed compartment, alongside a trailing microUSB power cable, and is designed to be used with ViewSonic's optional wireless HDMI upgrade, the £100 WPG-300, or any powered HDMI streamer, such as Roku's Streaming Stick. Handy.

Getting the Pro7827HD set up in your viewing room is easy. The PJ offers a 1.3x zoom, vertical lens shift, horizontal/vertical keystone correction, and an adjustable foot to help get its image (up to 300in) correctly aligned. And if you're using a wall rather than a projector screen, a wall-colour compensation tool helps retain image pop.

With picture in place, ViewSonic offers numerous calibration tools to fine-tune it to your preference, including preset image modes and enough calibration tools – including colour temperature and gamma adjustment – to earn it certification from professional body ISF. Movie fans can use the pre-calibrated REC.709 setting for the most authentic performance with their Blu-ray collection.

Packing a punch

As we discovered during our audition, this is a barnstorming home cinema PJ that punches well above its weight. With *Star Wars: The Force Awakens*, its black level response comes to the fore, delivering the full impact of the Millennium Falcon speeding against a backdrop of inky expanse. Motion handling is another strength, with the Pro7827HD retaining image clarity during action scenes, while the Full HD resolution digs out detail with aplomb. Colour handling also impresses, be it vibrant reds or subtle fleshtones, as does 3D playback – and ViewSonic has also donated two pairs of its PGD-350 active shutter 3D glasses so our competition winner will be able to join the stereoscopic party.

Overall, we finished our review saying: 'In short, this is a damn fine effort – not so long ago, you would have paid thousands to get visuals of this standard.' So, if you fancy getting a slice of the home cinema projection high-life, answer the brain-teaser opposite before the closing date. And good luck! ■

For more info on ViewSonic's range of home cinema projectors visit www.viewsoniceurope.com/uk





ViewSonic's Pro7827HD projector creates Full HD images up to 300in



Be in with a chance of winning the ViewSonic Pro7827HD projector by answering the following film-related question:

Q: Which actor played James Bond in A View to a Kill in 1985?

A) TIMOTHY DALTON B) SEAN CONNERY C) ROGER MOORE

TO ENTER, SIMPLY email your answer (either A, B or C) to competitions@homecinemachoice.com with the subject line 'ViewSonic'. You must include your name, address and contact telephone number so we can notify you if you win.

THE CLOSING DATE for this competition is August 11, 2016. Please read the terms and conditions (opposite) before sending in your entry.

Competition rules

1. The first entry drawn at random will win the prize. **2.** Only one entry per person/household; multiple entries will be discarded. **3.** Entrants from the UK only. **4.** Employees of MyTimeMedia Ltd and companies supplying competition prizes are not eligible to enter this competition. **5.** Please ensure your personal details are correct, as they will be used to contact you if you win. **6.** No alternatives, cash or otherwise, will be offered to the winners as prizes. **7.** The editor's decision is final. **8.** Comp winners' info available upon request. **9.** The closing date for entries is August 11, 2016.

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Modern TVs now offer so much extra-curricular fun that **Mark Craven** is getting his kicks playing freebie games – something he never thought he'd do in an era of Ultra HD Blu-ray

I AM ADDICTED to a computer game. There, I've said it. I suppose this admission might make me feel better, but frankly all I can think about right now is that instead of writing this column I could be getting my fix. I'll just have to sweat it out.

The game in question – *Asphalt 8: Airborne* – isn't one of the new, big-budget extravaganzas you see advertised on TV. In fact, it's a freebie, available to download to your device from Google Play or Apple's App Store. And, more importantly, it's available on Samsung's Smart TV platform.

Until recently, I'd given the gaming side of smart TV little consideration. Early experiences – including a product demo where I was made to play an idiotic game with a hungry shark – hardly made me think there was much to get excited about. Quantity over quality seemed to be the general ethos surrounding title selection. And smart TVs – as my colleague Steve May highlighted in a previous column – are fickle beasts, changing their user interfaces, hiding content and generally not making you want to spend ages getting to know them.

Four weeks ago, though, while desperately trying to entertain an angry nephew, I decided to reacquaint myself with the Games tab on my TV. And there was *Asphalt 8*, a whizzy driving game – a bit reminiscent of *Burnout* – with lush graphics and throaty engine roars. Had it been launched 10 years ago it would have probably set you back about £40, but was here offered *gratis*, and could be controlled via the TV's remote, no joypad necessary. The result is that my nephew likes me again, I'm sneaking around the house at 1am to satiate my gaming desires, and I know an awful lot more about supercars than I used to.

Some of you will be uninterested by this development – who wants to hoon a virtual

Lamborghini around a virtual track when there are BDs to be watched? I mention it because it's an example of how mixed up the smart TV world has become. Where once all you could hope for was a few cooking recipes and a half-baked BBC iPlayer portal, you can now get great-looking, great-playing games without counting the cost of extra hardware. And recently the Gamefly subscription service, and PlayStation Now, have both been added to my TV's smart platform. Essentially, it's become a circa-PS3 era console with massive screen attached.

What's odd, though, is that TV manufacturers still aren't really shouting about the gaming potential of their flatscreens. Advertising campaigns focus on image quality, as do in-store demos. Try asking a retailer what shoot-em up titles are available to play and you'll probably get a blank expression.

Too much of a good thing

This is the problem with modern TVs. They are almost too good, combining bigscreen 4K playback with catchup TV platforms, in-built media players, web browsers, social media clients and gaming support. Some, like Philips' Ambilux TV (see p52) also offer lightshows. Others can become part of a multiroom audio setup. The value for money and feature set you can get from a new TV is insane.

And yet our focus will always be on image quality. I'm not suggesting anyone should be content with a sub-par visual experience just because their TV will let them tweet about it at the same time. When it comes to home cinema, picture performance is paramount. But maybe check out the other hidden talents of your telly – you might find some welcome surprises ■

Do the smart talents of AV hardware affect your buying choice? Let us know: email letters@homecinemachoice.com

Having already broken one remote during a mammoth gaming session, **Mark Craven** now understands why many TVs ship with two of them





Film Fanatic

Just when you thought it was safe to read his column again, **Anton van Beek** is back with updates about a couple of vintage 3D films being released on Blu-ray...

TOWARDS THE END of 2015 I used this space to express my sadness at the fact that the current model of 3D home cinema was apparently being abandoned by some of the major screen brands. The main thrust of the piece was my concern that many of the vintage 3D movies I was holding out for on Blu-ray would never get their chance to shine in their native stereoscopic form.

Since then, however, there's been some additional activity in the world of retro 3D Blu-ray. With that in mind – and recognising that some of you who wrote in to comment on the column actually agreed with my point of view – I thought I'd take this opportunity to bring fellow 3D-fanatics up to date with what's been going on...

The big news, of course, is the long-awaited debut of *Jaws 3* on BD. Released in the middle of June in the US and due for a UK release on July 11 (alongside *Jaws 2* and *Jaws: The Revenge*), Universal Pictures' HD platter may be devoid of traditional extra features, but more than makes up for this – and answers the prayers of die-hard 3D film fans like myself – by including the original stereoscopic presentation of the shark horror alongside the 'flat' version.

Although far from perfect, *Jaws 3*'s 3D presentation is a lot of fun – especially if you have a fondness for negative parallax effects. **The filmmakers evidently made the most of shooting in 3D and ensure that things poke out of the screen at almost every opportunity.** Look out for a review of the UK disc in an upcoming issue.

The other, equally unexpected news, was the discovery of a placeholder page hidden away on the website of UK indie label Panamint. This teased a 3D Blu-ray of Jack Arnold's classic 1953 sci-fi flick *It Came From Outer Space* (not to be confused with

1958's *It! The Terror From Beyond Space* – see p106) set for release in the first half of 2016. Although it may be a surprise to see a small label such as Panamint heading down the 3D Blu-ray route, the company had previously released 1953 stereoscopic film noir *Inferno* on the format, so has some form here.

It Came... and went again

Unfortunately, it wasn't to be. Months passed and with no official announcement of the title coming from the label I decided to contact it directly. Soon, Panamint founder and owner Russell Cowe got back to me with some disappointing news.

As Cowe explained: 'I was contacted by the VP of Universal Home Entertainment in February. They wanted to do *It Came...* 3D in the US and suggested we collaborate. I've now decided to cancel our [UK] release as there is no point in having two competing versions of the same 3D film. The market in the UK alone is very small for 3D, and grey importing at low prices would greatly affect our sales. I had four other Universal 3D titles slated for release, but after this disappointment, these are unlikely to go ahead.'

For me, this is a downer, but it also indicates that Universal is still determined to make the most of its 3D back catalogue in HD, and a 3D Blu-ray of *It Came from Outer Space* is still on the cards, albeit from a different distributor. Let's just hope that Universal doesn't keep fans waiting too long.

And then there's the matter of those four other Universal titles Cowe mentioned. It'll be interesting to see what happens with those – whether Panamint does eventually distribute, or if Universal does so itself. Could my dream of a 3D home release of *Revenge of the Creature* finally be realised? ■

Which vintage 3D films would you like to see released on Blu-ray? Let us know: email letters@homecinemachoice.com

With *Jaws 3* finally available on 3D BD, **Anton van Beek's** next goal is to see *Jaws: The Revenge* get a High Dynamic Range makeover on UHD Blu-ray



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In The Mix

When it comes to Hollywood movie productions, **Jon Thompson** says you shouldn't believe everything you read. Particularly when it concerns *Star Wars*...

HAVING BEEN AT the sharp end of making films for 30 years I feel I sort of understand the process. I know the auteur theory is nonsense created by lazy journalists who think the director is a divine creature who channels the film straight onto the screen. And when the same journalists are convinced that a film is a disaster because it is undergoing reshoots – as has been recently reported concerning this year's *Star Wars* flick, *Rogue One* – I can only laugh. Books, films, music... are all collaborative art forms, and part of the collaborative process with movies is editing, working out how to tell a story effectively with the material shot. Reshoots are part of this.

The story comes first!

Despite all the technology, the most important element in a movie is the story. All the rest is just icing; if the story does not engage and entertain its audience then the film is lost and no amount of VFX/HDR/IMAX/surround sound will save it. Most issues can be levelled at the original script, where the premise is so weak it doesn't have enough to pull the audience into its story. Some people, who have ignored the failings of the premise in the beginning, believe the stupid myth that it can be fixed in post-production. Jack James' *Fix it in Post* is well worth a read if you are interested in the subject as it shows how, if you can shoot correctly in the first instance, you'll be in a much better place.

But a film editor still has a lot to do. If the director has failed to cover the script well enough then more material will be needed. This is when another shoot comes in – or 'pickups', as they are called. The word 'reshoot' makes it sound as if, well, the whole movie is being reshot. Those desperate to view *Rogue One: A Star Wars Story* this December might think that is what's actually happening.

An issue with VFX-heavy films is it's not easy to watch an edit when a lot of the shots are missing. Watching the reaction with no action, as it's yet to be rendered, makes it hard to engage with the story. So with this film, the reshoots are simply part of its production process and not some red flag that the director, Gareth Edwards, has lost the plot.

And reshoots aren't a calamity. *Jaws* has plenty of them, yet no one says Spielberg failed because he had to reshoot parts of the movie. In his case, they were editing on set – actually a very sensible financial option – so the reshoots would not be flagged up, other than in the studio report on what they did that day. In fact, the way in which *Jaws* was made – with the writer and editor on set – is the perfect model for filmmaking. *Apocalypse Now* is another example of a film machine, with rewrites and reshoots going on daily. You shoot, review, edit, then refine all in a short time. It's true creativity in a free-flow form, and possibly why the films are so good. And it's not just the preserve of large-budget movies. Director Ken Loach will have the writer on set as well as getting an assembly done, so he can work out if pickups are needed. As his films are actor-based, he rehearses the hell out of them, meaning he can go back to the writer and rewrite a scene before he's even shot it.

Today, a lot of people are frightened to make a critical comment and not until the film is released is anyone actually giving any real feedback – often the public voting with their feet by not buying any tickets. Reshoots are, therefore, a good thing. And the next time you read a headline saying a movie is in trouble due to reshoots, think again. It's just part of the process, and without it the great films we know and love may not have been so great ■

Are you already counting down the days til Rogue One launches? Let us know: email letters@homecinemachoice.com

When he's not in his screening room, **Jon Thompson** tweets about Hollywood gossip, movie-making and digital mastering at @johnnyfocal

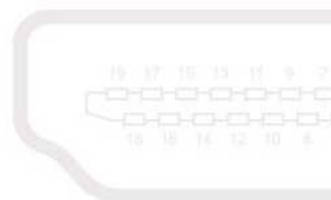




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How to...

Set up your projector

Home cinema projection can seem like a dark art to the uninitiated, but as **John Archer** points out, installing a projector needn't be complicated, and only a little work is required to get largescreen images your multiplex would be proud of

WHEN IT COMES to getting the best out of a projector, your work really needs to begin before you've even bought one. After all, every cinema room is different in terms of its size and light properties, and projectors vary enormously in terms of the brightness and image size options they provide. And it's brightness where I'll start...

Brightness

In an ideal world, a projector will be permanently installed in a totally dark room with dark walls and black-out curtains. Or no windows at all! If you can manage that, then you can look at projectors that emphasise contrast/black levels – such as JVC's D-ILA models – ahead of brightness. If you're looking for a projector to go into a more casual environment, though – a standard living room with basic curtains, say – it's worth looking at brighter projectors (where luminance ratings get above the 2,000 Lumens mark) able to combat ambient light more effectively.

Viewing distance/throw ratio

Getting the optimal picture size is a key consideration when buying and setting up a projector. Many rooms require the projector to sit in quite a specific position, and if you're using a screen rather than a wall (something we'd always recommend) you will need to achieve quite a precisely sized picture. So it's imperative your chosen projector can satisfy these twin demands.

Projector lenses can differ immensely in the throw ratios they can deliver, so make sure that any projector you're looking at can deliver the image size you want from the throw distance you want – bearing in mind that most projectors also carry some degree of optical zoom to deliver more image size/throw distance flexibility.



Cue something called throw ratio. This is the relationship between the size of image a projector can produce when sat a particular distance from the screen, written as viewing distance divided by screen width.

Let's look at a couple of examples. The BenQ W2000 projector offers a throw ratio of 1.15-1.5:1 (the different values reflect the amount of zoom available), and you have a 100in (2.54m) screen to fill. Here, the projector could be sited between 2.92m (2.54 x 1.15) and 3.83m (2.54 x 1.5) from the screen to give you that 100in image.

Or, if you've bought a Sony VPL-VW320ES with its 1.38-2.83:1 throw ratio and your room layout needs you to site it around 15ft (4.57m) from your wall, the VW320ES's large amount of optical zoom means your screen could range from 63in to 130in in size.

If the throw ratio calculations scare you, bear in mind that many brands let you look at their manuals online, which usually contain lists of screen size/throw ratio examples, and offer web-based throw ratio calculators.

Lens Shift

So you've picked the right projector, put it in the right place in your room, and used your projector's zoom to get the right size of image. Now what? Your next port of call will involve getting the image set to the correct height for your

screen without causing the left and right sides of the picture to become angled in.

The best projectors let you adjust the height of the image optically using vertical image shifting. This is usually available via either a wheel somewhere on the projector's body or, with more premium models, via a motorised shifting system controlled from your remote. It's the best approach because it doesn't affect the image's geometry; it just lifts or lowers the image without it taking on a trapezoidal shape. The amount of image shifting varies from projector to projector, so this is something else you might ideally check before buying. Some offer horizontal as well as vertical control.

The second, less satisfying option for adjusting the height of pictures is to use a physical prop (most projectors have drop down legs, otherwise a pile of Blu-rays will do it...) to angle the image up (or down), and then use an image 'shape shifting' system called keystone correction to get the picture's sides perpendicular. The problem with this approach is that keystone correction essentially just distorts the image shape to get the sides of it straight, eradicating the pixel-for-pixel image clarity and accuracy AV fans crave. Take this into consideration if you're thinking of buying a budget model without any lens shift adjustment.

Focus

Focusing a projector's pictures is usually achieved via a simple ring around the lens, or in some cases via a motorised system operated through the remote control.

Getting the focus exactly right is critical to image quality, so don't rush it. Some projectors provide simple grid-like test screens to help you optimise the focus, but most don't. The best way to get perfect sharpness in these cases is to call up the PJ's own onscreen menus and study the edges of the onscreen text while you slowly twist the focus ring.

Lamp settings

Having sorted out the physical aspects of projector set up, you can still greatly impact your projector's pictures with some of the adjustments in its menus.

One of the most critical settings to play with is your projector's lamp output. Almost all projectors have Low/Eco and Normal/High lamp settings that adjust the amount of light the machine outputs. The Low/Eco modes tend to increase the life of your projector's lamp, reduce cooling fan noise and boost black levels at the expense of brightness, making them usually the best option for serious movie-viewing in blacked-out rooms. High lamp modes are, of course, preferable if you have ambient light to contend with, or you're watching, say, a sporting event in daylight hours.

Contrast adjustments

Some projectors offer dynamic iris or lamp options to boost contrast. Dynamic iris systems adjust an aperture in the lens to manipulate the amount of light emitted depending on image content, so dark scenes get deeper blacks while bright scenes get more light. Dynamic lamp systems adjust the lamp output continually to suit the image.

Note that all dynamic light adjustment systems have the potential to introduce noticeable light instability, so it's worth playing with any secondary speed or potency options a dynamic contrast feature might provide.



Motion controls

Many PJs provide processing options to reduce motion judder and blur. For the most part I'd advise turning these off, as they tend to make the picture look less natural and cinematic. But by all means experiment. Sony is perhaps an honourable exception to this rule, with some of its unusually sensitive MotionFlow settings.

Sharpness

It's tempting to set sharpness high on any projector. Actually, though, this is seldom a great idea. Over-sharpening images can cause grain, grittiness, ghosting, and stressed edges. Usually sharpness is best left below 50 per cent. Again, you need to experiment.

Colour

Colour can be a tricky area for projectors, especially with relatively budget models that are often designed for both presentations and movie use, despite these two scenarios benefitting from very different colour settings.

Key things to look for when watching movies are gamma settings of 2.2 or, possibly, 2.4; and colour temperature settings with non-HDR sources of around 6,500 Kelvins.

Many DLP projectors provide a colour boosting feature called Brilliant Colour. This can make pictures look much more vivid. Note, though, that Brilliant Colour's higher settings can cause video noise or detail loss in bright areas.

Professional calibration

Lastly, if you have a dedicated room and highly specified projector, you could consider paying a professional installer to calibrate pictures for you. They will go into more in-depth colour, white balance and gamma management settings to deliver pictures as accurate as possible to the established industry standards, while also taking into consideration the precise conditions of your room. A good PJ should let you do enough with its picture presets and fairly basic adjustments, though, to deliver great results on your own ■

TOP TIP

GIVE IT AN MOT: It can pay dividends to routinely check in on your PJ, especially when it comes to focus, to make sure it hasn't 'drifted' over time. That way you're always getting the best image

1. Before buying any PJ, check its throw ratio – and your room dimensions – to see if it meets your needs

2. Focus, zoom and lens shift are vital tools in getting an accurate image

3. A PJ's onscreen menus will usually offer brightness, contrast, colour and sharpness tools

DO IT!

COST: Outside of the price of your PJ, nothing!

TIME: After taking time to research suitable models for the dimensions of your room/ambient light, allow at least an hour to get a PJ's image correctly lined and pictures tuned to your preference

Feedback

Got an axe to grind? Need to comment on current technology? Want to share your knowledge with our readers? **Team HCC** is here to help

From smart to dumb

The letter from Simon in your May issue [*My big fat dumb TV*, HCC #260] is an article I can fully sympathise with. I also purchased a Panasonic plasma smart TV and Freeview PVR, when three years into the warranty period the app support was abandoned and my smart TV and Freeview PVR went from smart to dumb hardware. The apps failed to function and I – like others – was then left with basic products.

This seems a very unethical marketing ploy for us to be enticed to buy these products then for the manufacturers to abandon app support. I suspect they have to support a licencing fee to the app developer on their devices, which in the long term will backfire as the general consumers of these products are smart and will not fall for the same ploy twice. Customer loyalty depends on manufacturer loyalty extending to the customer; there is a symbiosis in this technology relationship that the manufacturers need to recognise with the customers who are purchasing their products.
David, Ramsgate

Steve May replies: When I wrote my original

column about firmware updates [HCC #258] I didn't realise it would resonate so much with HCC readers. I'd like to say this makes me happy, but obviously it doesn't, as it's clear that many (we've had more letters on this topic) are feeling let down by smart TV vendors. The only real solution, I suppose, is for those with TVs being dumbed down to invest in an add-on device (Roku, Amazon Fire, etc) to bring them up to speed. At least these gizmos are affordable enough to not having you pulling all your hair out if they start to also suffer from functionality losses. Not ideal, of course, but perhaps the 'smart' option.



Amazon Fire: a smart TV add-on

Ignore MHL HDMI at your peril!

Hi, I've been a reader for some years now and thought myself pretty clued up on AV. However, having bought a Samsung HU7500

TV over a year ago, imagine my horror when my newly-purchased Panasonic UB900 UHD player turned into an old-tech Blu-ray player and would only play 1080p.

16:9 shouldn't be abandoned

Many thanks to Martin Dew for his very informative article on the confusing matter of aspect ratios [HCC #261]. While home cinema enthusiasts with PJs can work around the variations, most people watch on TV screens, which are a standard 16:9. Watching any of the varied widescreen movies will always mean black bars at the top/bottom and smaller images. If the TV is not too good on blacks you get distracting grey bars.

Widescreen is fine in home cinema for spectacular movies, but quite pointless in human dramas which use the camera to focus on people and their emotions. The BBC's *Dr Foster* was filmed in 2.35:1. This added nothing at all, and I watched it by using zoom to fill the 16:9 proportion, with no loss whatever. Conversely, some broadcasters air old movies made in 4:3 stretched to fill 16:9, the end result being fat people! It is always a dilemma for TV.
Roger



Dr Foster: the TV drama aired in 2.35:1

Having fiddled with the settings to no avail, realising the player was HDCP 2.2 along with my new Onkyo TX-NR646 AV receiver and the TV was not, I faced the prospect of another expensive purchase to replace the Samsung. So, I dove into the Samsung's e-manual and found a socket I was not familiar with: HDMI (MHL). This remarkable, little-spoken-of HDMI port allowed 4K UHD playback on my (old) TV. Perhaps you could do an article on this amazing MHL and spread the word.

David Blench

Mark Craven replies: MHL has nothing to do with it actually, David – this tech, also known as Mobile High-Definition Link, is an industry standard for allowing video/audio to be fed from smartphones/tablets onto HD displays. However, the Samsung HU7500 series, which launched in 2014, also makes that HDMI/MHL input HDCP 2.2 compatible, but not the other three inputs, which is why this is the one to use to pass an Ultra HD Blu-ray signal at full 4K resolution. As you discovered, this is eventually made clear deep within Samsung's near 200-page manual.

Thanks for reporting in, though – and if any other owners of similar vintage sets have hit a stumbling block, don't forget to always read the manual!

What's the point of HDR?

In *HCC* #259 John Archer has a look into the initial batch of HDR/4K releases. In two reviews he says 'HDR is being used to deliver images that look more like how we see the world, rather than creating stylised HDR effects,' and 'Colours aren't as explosive as those of some UHD BDs, but this merely proves HDR can be used to make colours look more accurate rather than just pushing greater dynamics.'

I have the impression that this is for him almost a negative point. Is he annoyed that HDR is not going full-throttle?

I was thinking HDR would be used to let us see images more like we see images, with more detail in both the black regions and the white regions (even when it's the same image). Or does it have to go even further than reality and just push whites and blacks? I thought HDR is used to bring out more colour then we have in REC.709 but not to make it look artificial.

Patrick, Belgium

John Archer replies: No, not a negative point, Patrick! I was simply trying to convey to people that not all HDR masters are created equally, and that buyers shouldn't always expect – as you say – a full-throttle experience with heightened dynamics.

The best HDR titles I have seen have been good for different reasons, actually. Sony's *Amazing Spider-Man 2* certainly dazzles with

★ Star Letter...

DVD-Audio? Give me HD DVD instead!

Dark Bunny Tees'
limited edition
Moon merch



Dear HCC, on some Blu-ray players, usually from mid-range and high-end brands, the playback capabilities include audio formats like Super Audio CD and DVD-Audio. And I wonder why?

Has anyone seen these discs on the shelves of HMV? On internet sites I've found a few dozen titles, most of them classic rock and classical music, which is not everyone's cup of tea, I'm sure you'll agree.

Now, why don't they just include in these players support for HD DVD instead? For example, I personally own around 60 HD DVD titles, and there are still plenty of other AV enthusiasts who own them. You might say it's a dead format but are those I mentioned above really alive?

Romualds Pizans

Mark Craven replies: Wow, Romualds, your letter has sent my head into a spin. Why? Because you kinda have a point.

We often refer to players that can handle DVD-Audio and Super Audio CDs – in addition to Blu-ray and DVD formats – as 'universal' players. It's a moniker we probably need to drop considering the introduction of Ultra HD Blu-ray, but it does ignore the HD DVD format, so perhaps it should have been dropped years ago!

Now, HD DVD has been as dead as a technological dodo since 2008, but there was somewhere around 600-700 HD DVDs released during its lifespan (finding an

exact number is tricky, as there were many launched in various territories around the world, and some were – ahem – adult releases). This is a reasonably good number for a failed format. DVD-Audio and Super Audio CD are still enjoying occasional releases, but hardly by the bucketload.

A true combi-deck that supports DVD, BD, UHD BD and HD DVD would be a movie fan's delight. I share your enthusiasm. The problem, of course, is that the consumer base for any such deck in 2016 would be miniscule, with only the likes of you and me interested. HD DVD stalwarts with large collections are likely to have a still-working, much-cherished player. Those that don't are very unlikely to buy a new one, even if they have a big collection. I have a smattering of HD DVD titles that, if I decided I wanted to watch, I'd pick up a deck on eBay rather than shop for a brand-new, expensive solution that replicates the functions of players I already own.

LG's 2007 combi deck, the Super Multi Blue BH100, showed it was technically possible, but there's no way that any company will revisit the idea. So, a nice dream to have, but one that will remain unfulfilled!

Star letter-writer Romualds grabs a set of limited edition *Moon* apparel and collectables from the movie-mad folk at Dark Bunny Tees. Tied into Duncan Jones' superb 2009 sci-fi flick, the prize bundle includes an officially-licensed 'Sarang Table Tennis Association' T-shirt, plus a 'Wake Me When it's Quitting Time' T-shirt, mug and messenger bag. For more on Dark Bunny Tees' range of movie-related apparel visit www.darkbunnytees.com.

its sheer colour punch – and is helped by the fact it's encoded from a true 4K digital master. Meanwhile, *The Revenant* works wonders with the naturalistic lighting/cinematography to create a really absorbing image, but in a completely different way.

You're also right to say that HDR is about detail in both the dark and light extremes of an

image – not to mention a typically wider colour gamut – rather than just the impact of peak whites. However, I wouldn't be surprised if the marketing of the format leads to a lot of people assuming this is its major draw.

Time for a switcheroo?

Regarding Steve May's *AV Avenger* column >

[HCC #260], could the issues with TV inputs set up for UHD metadata misinterpreting HD signals without it be worked around by using an HDMI splitter, sending one output to an HDCP 2.2 configured input, one to an HD-only HDCP 1.4 input, and choosing the appropriate one before starting playback? If so, are there any splitters on the market you could recommend as performing the split correctly across a range of TV/player combos?

Switching between inputs isn't perfect, but it's easier than switching configurations on a single input, and it's exactly what you'd do if there was one player for UHD BD discs and another for standard HD. The cost of a splitter is pretty small beer compared to a 4K TV and UHD BD player.

On another topic, Anton van Beek asked for movie Top Tens, so here's mine:

Blade Runner (Best sci-fi movie)

Casablanca (Best studio system film)

Jungle Book (Best Golden Age Disney)

LA Confidential (Best cop film)

Lawrence of Arabia (Best war film,

or as near as I get)

Once Upon a Time in the West (Best Western, just beating *The Outlaw Josey Wales*)

My Neighbour Totoro (Best Miyazaki movie, and therefore best animation)

Seven Samurai (Best B&W movie)



My Neighbour Totoro:
a superior toon from
Hayao Miyazaki

Singin' in the Rain (Best musical)

Touch of Evil (Best B-movie, but heretically I prefer the studio cut)

Prince: Sign 'o' the Times (Best concert movie).

Dave, Warwick

Steve May replies: Hi Dave. The idea of an HDCP 2.2/HDMI 2.0a splitter to solve the input toggling issue sounds, in theory, a good one. And there are now such splitters available. Accessories specialist Pulse Eight sells one (with one input and two outputs) for around £110. However, HDMI is an arcane, complex beast and I wouldn't bet my UHD

Blu-ray connection on such a setup working painlessly until I've seen it in action.

Anton van Beek replies: That sounds a lot like my own personal Top 10! Just needs *Alien* in place of *Blade Runner*, and space for *John Carpenter's The Thing* and *His Girl Friday*... ■

Contact us...

Write to HCC, AV Tech Media Ltd, Suite 25, Eden House, Enterprise Way, Edenbridge, Kent, TN8 6HF, or email us at letters@homecinemachoice.com Please note: we cannot guarantee to print/answer all the letters we receive. Sorry.

WIN! Great Blu-rays up for grabs...

Just email your answer to Competitions@homecinemachoice.com to be in with a chance to win



Grimsby

Sacha Baron Cohen is pushing the boundaries of taste yet again with his outrageous new action comedy *Grimsby*. The film is available to own now on Blu-ray, DVD

and Digital HD, and thanks to Sony Pictures Home Entertainment we've got three *Grimsby* Blu-rays to dish out!

Question:

Which of the following is the nickname for Grimsby Town Football Club?

Answer:

- A)** The Fishermen **B)** The Mariners
C) The Sailors

Email your answer with '*Grimsby*' as the subject heading – and don't forget to include your postal address!



High-Rise

Tom Hiddleston stars in this darkly comic thriller about life inside a luxury tower block. *High-Rise* will be available to own on Digital Download from July 11, followed by Blu-ray and

DVD on July 18, courtesy of StudioCanal. To mark the release, we've got five copies of the *High-Rise* Blu-ray up for grabs!

Question:

High-Rise is adapted from a book by which English novelist?

Answer:

- A)** J.G. Ballard **B)** D.H. Lawrence
C) J.R. Hartley

Email your answer with '*High-Rise*' as the subject heading – and don't forget to include your postal address!



Highlander: 30th Anniversary Edition

'There can be only one!'

The 1986 cult classic is returning to Blu-ray and DVD on July 11, sourced from a brand-new 4K

restoration of the film. To celebrate the release StudioCanal has given us five copies of the *Highlander: 30th Anniversary Edition* Blu-ray to give away!

Question:

Who plays The Kurgan in *Highlander*?

Answer:

- A)** Sean Connery **B)** Clancy Brown
C) Christopher Lambert

Email your answer with '*Highlander*' as the subject heading – and don't forget to include your postal address!

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Certified: AV-Holic!

Most people check out the number of bedrooms when looking for a new house, but HCC reader **Craig** headed straight to the garage to assess the potential for a home cinema conversion. Now he invites you to check out the end result



Welcome to the AV-Holics Hall of Fame! Introduce yourself...

My name's Craig Wright and I live in a small village in Nottinghamshire. I'm the Operations Director at LION Trackhire, which supplies temporary roadways to event and rail sites, and even film locations.

How long have you been into home cinema and what was the first setup you had?

I have been into home cinema ever since I was a ten-year-old – in 1981 – when my dad bought a JVC video player. One of the first setups I purchased myself was a 29in Toshiba CRT TV with Dolby Pro-logic sound. Ever since then I dreamed of having my own dedicated theatre.

And now you have!

Yes! I converted my garage about 18 months ago. I have been adding bits of kits over that

time, along with my feeding my obsession for collectable movie toys!

So what hardware is in your current system?

The projector is an Optoma HD25 Full HD model, which I use with a 120in screen. I have an 7.2.4-channel speaker setup for Dolby Atmos, using the Wharfedale DX-1 HCP 5.1 package (plus an extra two surrounds and subwoofer purchased separately) along with four Tannoy Mercury iC6 ceiling speakers. To power and process this soundfield I'm using two AV receivers – a Marantz SR7009 and a Yamaha RX-V673.

Sources are a Samsung BD-H5500 Blu-ray player and a Mede8er MED800X3D media player. I also have around 15TB of NAS storage around the house that stores movies, and have Netflix 4K and Amazon Prime!

I use a Logitech Harmony Touch to control the whole system.

Craig undertook the garage conversion with the help of a friend, constructing stud walls and ceilings, lined with acoustic Rockwool to ensure minimum sound leakage to the rest of the house



What do you love about having a home cinema?

I'd always wanted a dedicated room so when I was persuaded to look for a larger house the main criteria for me was to be able to convert the garage. The first thing I did on viewing our new house was to head for the garage with a tape measure!

I have always loved the cinema experience; the loud surround sound and huge picture really immerses you in the film. It's a great way to switch off from a hectic day at work. The kids love it too and even my wife enjoys it... if I don't turn the volume up too loud!

How would you rate the performance of your system?

I would say I have a fairly decent setup considering my relatively small budget. The Optoma projector is great value and people are always impressed at the picture quality it gives for around the same price as a 50in TV. The Wharfedale speakers are a great buy as well and look and sound way more expensive than they are. I also have a set of these in my living room.

And what's your verdict on Dolby Atmos?

I love it, and I think I managed to upgrade to a 7.2.4 system quite cheaply utilising my existing amp to run two of the height speakers and adding the Marantz for the rest. I was looking at the Onkyo 11.2-channel receiver [the TX-NR3030] to run them all but this would

have set me back £3,000 which my wife would never have swallowed!

Roughly how much have you spent on your system?

I've probably spent £8,000-£9,000 on the project, inclusive of all the work and kit (but excluding all toys). I have tried to look for good budget buys, even buying some items

'I love the cinema experience. The loud surround sound and huge picture really immerses you'

second-hand to keep the costs down. The most expensive purchases have been the Marantz amp and the Optoma PJ.

Where did you get the star ceiling kit from?

My wife liked the idea of the star ceiling so I looked at the panels you can buy and they were a little out of my budget. So I decided to have a look at making one myself. I got the black board from a kitchen supply shop – it's a unit end décor panel. Then I bought the fibre optic lights for a couple of hundred quid on eBay and then set about the 400 holes on the board with a drill, pack of 1mm drill bits and a glue gun.

Opposite: Craig's room features a 120in projector screen and a purpose-built fibre optic star ceiling; his extensive movie memorabilia collection is shown off in display cases

Top left: The 7.2.4 array uses Wharfedale's DX-1 HCP 5.1 package as its starting point, with additional sub and surround speakers, plus in-ceiling models from Tannoy

Top: Our AV-Holic buys new BDs every week

How did you construct the new walls?

I have a friend who put up the wood frames, then I soundproofed them with acoustic Rockwool and plaster boards. They do a pretty good job shielding the sound from the rest of the house.

How big is the room?

It's approximately 4.5m long x 3.2m wide.

What's your favourite bit of kit?

As said, I love Dolby Atmos so would have to go for the Marantz amp. It also makes a great job of enhancing traditional Dolby Digital/DTS and stereo soundtracks so you can utilise the ceiling speakers all the time. You can't beat *Mad Max: Fury Road* or *Transformers: Age of Extinction* in true Dolby Atmos, though!

What's next on your kit list?

Kit I am currently looking at is Sony's VPL-VW520ES 4K HDR projector and a UHD Blu-ray deck, although the projector



is expensive. May have to wait a little while for the other manufacturers to catch up with the technology.

What do friends and family think of the cinema room?

They are always surprised at the fairly low prices I have paid to get the parts together. I have even set up another three dedicated rooms since doing mine. The Hot Toys [famous Hong Kong-based scale replica company] models I have are a head-turner. I currently own over 50 of these all bought from eBay and Gumtree.

What discs do you use to show off the system?

When I want to demo the system I tend to go



with *Mad Max: Fury Road 3D* and *Oblivion*. And I do love *The Raid 2*.

How often do you buy BDs?

I currently own about 300 Blu-rays and usually buy one or two every week. I try and keep an eye out for Dolby Atmos releases.

The latest movies on my shopping list are *The Revenant* and *Deadpool*. I am a bit of a sci-fi fan (see the next question...) so own



Cinema room kit includes the ceiling-mounted Optoma HD25 projector (top left) and a AVR pairing – a Marantz SR7009 (left) in the kit rack processes the 11-channel Atmos sound, with extra grunt coming from a Yamaha RX-V673

all the Marvel movies. I have a few romantic comedies for my wife but these are hidden away most of the time!

And, lastly, what are your favourite films?

I'd have to say *Aliens*, *Escape From New York*, *Blade 2*, *Robocop* and *Predator* ■

Share your system in the mag!

If you want to be in **HCC**, you'll need to send us some hi-res images of your cinema room. Here are a few tips for great-looking pictures:

1. Go big. Set your camera to take images at the largest possible size, and at the highest resolution. Don't worry about cropping or resizing – we will make them print-ready.
2. Get in focus. Make sure your photos are as sharp and clear as possible. If you have one, use a tripod, or place your camera on a flat, steady surface and take pictures on a delay. The sharper they are, the bigger we can print them.
3. Let some light in. While we tend to watch

movies in the dark, our cinema systems look their best when they are lit. If you can shoot with natural daylight, do so. If your room doesn't get a lot of light (a garage conversion, for instance) then switch on whatever lights are fitted. Avoid using flash wherever possible.

4. Be thorough. Send photos of as much of the room as possible. Images of both the front and back of the room, the kit rack, speakers, seating, disc shelf, movie poster art... The more the merrier.



5. Don't be shy. Send a picture of yourself!
6. Show us more. Got pictures of your room before it was a cinema? Or snaps of work being done? We love to see these, too.

Email your selection of images to letters@homecinemachoice.com with the subject heading 'AV-Holic'. Provide us with some information about your setup – including a full kit list – and we'll then be in touch.



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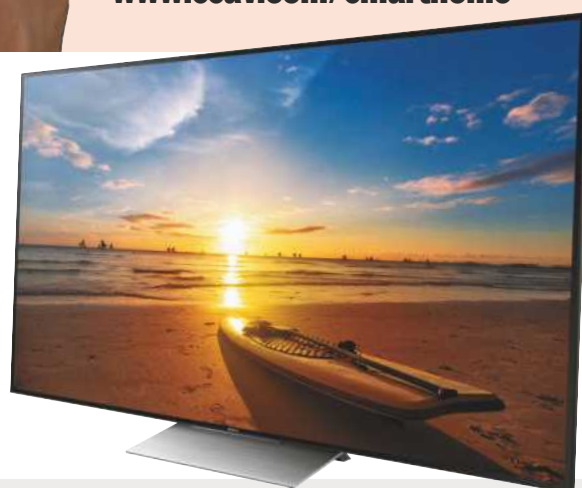
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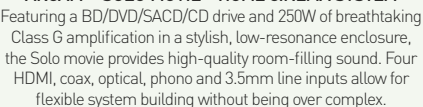
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PLAYBACK

→ **SOFTWARE HIGHLIGHTS** **DEADPOOL** Fourth-wall-breaking superhero smash hits UHD Blu-ray **10 CLOVERFIELD LANE** Atmos soundmix adds plenty of atmosphere to this subterranean thriller **HIGH-RISE** Bringing Ballard to BD **ZOOTROPOLIS** Getting wild with Disney's superb new 'toon **BONE TOMAHAWK** Brutal Western impresses in hi-def **& MORE!**

Blood and bodices

Pride + Prejudice + Zombies
→ Lionsgate → Region B BD



Jane Austen meets George Romero as the undead invade Regency-era England in this action-packed genre mash-up. Check out our Blu-ray review on p104 to see if it's more than just a one-note joke...

HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

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Zootropolis certainly looks like a real Zootopia from the outside...



DISC
OF THE
MONTH

Take a walk on the wild side

The House of Mouse gets political with its latest animated feature about talking animals



→ ZOOTROPOLIS

Anthropomorphic animals have been the key feature of animation since the art form's earliest days. And you only have to look at the longevity and familiarity of characters like Mickey Mouse and Donald Duck to see how important the concept has been to the Walt Disney brand. Never before, though, has the studio approached the subject as subversively as it has with *Zootropolis*.

Defying all the odds, small-town bunny Judy Hopps (Ginnifer Goodwin) graduates from police academy and becomes the first-ever rabbit cop. But, despite being assigned to the bustling city of Zootropolis, Judy's dreams of catching bad guys are dashed by her new boss, who doubts her potential and relegates her to traffic warden duties.

Judy's big break finally comes when a missing person case falls into her lap, one that will require the help of a wily fox scam-artist (Jason Bateman's Nick Wilde) if she's to get to the bottom of it. But does Judy really have what it takes to prove her worth? And, more importantly, can predator and prey animals really be friends?

Having got off to a faltering start with *Chicken Little* and *Meet the Robinsons*, Disney Animation really seems to have got the hang of this whole CG animation malarkey. With *Bolt*, *Tangled*, *Wreck-It Ralph*, *Frozen* and *Big Hero 6*, the studio has put together a winning roster of

releases that even manages to put Pixar to shame – and *Zootropolis* does not let the side down.

What elevates this latest 'toon to the upper echelons of the studio's output is the way that it plays with the usual Disney tropes to deal with some pretty weighty topics (including sexism, racism and political correctness). As such, it's the most political feature animation Disney has ever produced. But don't fret: its themes are presented in such a smart, gentle and entertaining way, with myriad slapstick gags and clever film homages, that it's bound to be an immense pleasure for viewers of all ages.

Picture: Presented in its original 2.40:1 aspect ratio, *Zootropolis*' 1080p imagery boggles the eyes with its meticulously rendered textures and sumptuous details (all that fur!). Equally impressive is the palette, with the setting and characters delivering a rainbow of beautifully saturated colours. In other words, this is yet another top-tier transfer from the House of Mouse.

Audio: The nature of the material ensures that the film's DTS-HD MA 7.1 mix has plenty going on to keep itself busy. The entire soundstage positively bristles with activity, aided by slick panning effects and precise positional cues. Dialogue and music are full-bodied throughout.

Extras: Best of a limited bunch are three roundtable chats with members of the production team.

Also included are three behind-the-scenes featurettes, a music video, seven deleted scenes and a guide to a few of the film's hidden gags.



HCC VERDICT

Zootropolis

→ Walt Disney → All-region BD
→ £25

WE SAY: Disney's impressive run of form continues with this smart, funny and surprisingly topical 'toon. The Blu-ray's a winner, too!

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

Point Break

Warner Bros. → All-region BD
£25



Only a modest success upon its original release, Kathryn Bigelow's *Point Break* has since been reappraised as one of

the most vital action films of the early '90s. We doubt that a similar fate awaits this thunderously stupid extreme sports-themed remake, which has all the wit, smarts and characterisation of an energy drink advert. It also steals the 'X-treme' aesthetic of those ads, leaving this platter's otherwise proficient 1080p video struggling with ugly colour grading, blown out highlights and crushed blacks. A bombastic DTS-HD MA 7.1 mix is pretty much the film's sole saving grace.



Zoolander No. 2

Paramount/Universal Pictures
All-region BD → £25



Every bit as empty-headed and desperate to please as Zoolander himself, this sequel falls far short of the original.

Despite adding a *Da Vinci Code*-style mystery to its lampooning of the fashion industry, it still feels undernourished; lazily swapping out the original's silly satire for endless celebrity cameos. The real pity is that on the occasions when the film hits its comic targets, it hits them hard – but any flashes of hilarity are too few and too far between. Still, at least the Blu-ray's gaudy 1080p encode looks spectacular and the DTS:X track is relentlessly engaging.



Kung Fu Panda 3: Awesome Edition

DreamWorks/Twentieth Century Fox
All-region BD → £25



This third cinema outing for the bumbling martial arts master sees him reconnecting with his biological father Li and having to face down yet another world-conquering villain. Sadly,

while the first of the two plot lines is good fun, the second feels as if the film is just going through the motions – not something you could say about the previous flicks. The Blu-ray also falls short of its predecessors. Not only are the extras lacking, but this UK platter forgoes a lossless track in favour of a standard DTS 5.1 mix; a massive shame for a franchise that has been lauded for its expansive and dynamic Blu-ray audio.



Sound of the underground

Absorbing thriller makes its Blu-ray debut with a compelling Dolby Atmos mix

→ 10 CLOVERFIELD LANE

After being involved in a car crash, Michelle (Mary Elizabeth Winstead) awakes to find herself shackled to a bed in an underground bunker with an IV in her arm. Her host, Howard (John Goodman), insists that he isn't her captor, but her saviour; stating that he rescued her from the crash following a mysterious attack on the US that has left the air unbreathable.

Howard only asks that Michelle and his other guest, Emmett (John Gallagher, Jr), do exactly what he says and do nothing to compromise the integrity of the bunker, risking all of their lives. But, as time passes, Michelle begins to doubt Howard's story and starts looking for a way out...

For the majority of its running time *10 Cloverfield Lane* offers a masterclass in how to build tension, with director Dan Trachtenberg carefully parcelling out the film's twists and jolts to keep you hooked. Likewise, Winstead and Goodman do phenomenal work with their roles, the former as the film's smart and spunky protagonist, the latter giving the role of Howard flashes of vulnerability that helps keep you unsure as to the veracity of his beliefs.

But then we come to the film's final act and here we advise readers to look away if they want to remain completely free from potential spoilers. Without giving too much away, the ending sees *10 Cloverfield Lane* transform from a tense, nerve-jangling thriller into... something else. It's a move that will undoubtedly divide audiences right down the middle – although we rather enjoyed it.

Picture: Given the setting and tone of the film, it's no surprise that *10 Cloverfield Lane* doesn't make for the



most vibrant viewing experience around. That said, the main living area of the bunker is well-lit at times, revealing plenty of chintzy set-design as well as the odd vibrant hue in the Blu-ray's 2.40:1 encode. Despite some video noise in darker scenes, shadow details are generally good and black levels are stable throughout.

Audio: One you get past the opening car crash the disc's Dolby Atmos mix turns out to be more interested in adding atmosphere than showcasing snazzy cues. Even so, spatial effects are effective, dialogue is prioritised and there's good use made of the added height layer on a few occasions. Not hugely flashy then, but impressive nonetheless.

Extras: Bonus features kick off with an excellent commentary from director Dan Trachtenberg and producer JJ Abrams. Also included are seven *Making of...* featurettes looking at the origin of the project, design, stuntwork and other production aspects.



HCC VERDICT

10 Cloverfield Lane

→ Paramount/Universal Pictures
→ All-region BD → £25

WE SAY: Informative extras and good AV performance make this Blu-ray an easy recommendation

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

Fox's 4K anti-hero

The superhero genre goes 'R-rated' with this inventive, acerbic thrill-ride on Ultra HD Blu

Before directing *Deadpool*, Tim Miller designed the title sequence for Marvel's *Thor: The Dark World*



→ DEADPOOL

With every new Marvel TV show and movie striving to outdo the last for action spectacle, character overload, moodiness and/or plot complexity, *Deadpool* perhaps comes as a much-needed breath of fresh air.

For starters, studio 20th Century Fox has bravely gone all out to ensure *Deadpool*'s irreverent, smutty, fourth wall-breaking persona makes it intact onto the bigscreen. No line is deemed uncrossable, no topic too PC to skewer, resulting in some laugh-out-loud humour you surely wouldn't have got with a larger-scale, more 'studio-fied' flick.

A relatively limited budget is also turned to an advantage, forcing director Tim Miller and writing duo Rhett Reese and Paul Wernick to create an inventive narrative that manages to cram origin story, nods to a wider X-Men universe and action beats into a pleasingly tidy 108-minute run-time.

This is a brilliantly entertaining movie (although your appreciation of it will vary depending on how much you can stomach eye-watering violence) and it has at its core a superb performance by Ryan Reynolds. The actor has pinged around Hollywood for 20 years, in everything from gross-out comedies to thrillers and even the *Green Lantern* superhero misfire. As *Deadpool*, he appears to have found his calling. **Picture:** *Deadpool*'s 2.40:1 UHD Blu-ray picture quality is hit and miss – a reflection, perhaps, of it being shot at a sub-4K native resolution of around 3.4K. Only close-ups of the anti-hero's suit, and other characters' faces, consistently reveal a searing detail boost over the also-included 1080p Blu-ray platter. The extra sense of texture in *Deadpool*'s suit in particular, though, is welcome, giving it an appropriately more lived-in appearance.

While the 4K resolution might only sparkle sporadically, the HEVC encode's HDR and wide colour gamut aspects have a much bigger impact. The general brightness level of exterior sequences is markedly higher than on the standard Blu-ray, and there's more subtle tonal differentiation in



the brightest whites and colours. *Deadpool* stands out against his surroundings more dramatically, and contrast-rich interior sequences pack dynamic punch – those in Sister Margaret's bar are a riot of neon signs and inky darkness. In this regard the

UHD platter excels, although the HDR image is less convincing with the CGI Colossus than the Full HD, SDR Blu-ray...

Audio: *Deadpool* finally sees 20th Century Fox putting out a Dolby Atmos mix, although it's only housed on the Ultra HD Blu-ray disc and not on the 1080p platter. The results are spectacular. In keeping with the film's visceral violence and hyped-up approach, the soundtrack is extremely aggressive, combining rich use of placement effects and potent transitions around the soundstage with subwoofer-bothering amounts of bass. When a car bounces over the camera, for instance, it sails believably over your head.

The mix also revels in the finer things in life, so if you've ever wanted to hear what bones breaking, swords cutting through flesh and blood spattering sound like, *Deadpool*'s your disc.

Extras: The *Deadpool* UHD BD carries two commentary tracks: one by Ryan Reynolds (God's Perfect Idiot according to the film's opening credits) and screenwriters Rhett Reese and Paul Wernick; the other by director Tim Miller and *Deadpool* co-creator/comic book artist Rob Liefeld. The first of these is perhaps the more enjoyable, thanks to some snappy repartee and plenty of discussion on the way the actors and writers approached their work.

More extras reside on the bundled Full HD Blu-ray. There's a series of deleted and extended scenes, which for the most part seem justified in their cutting, although it's worth a watch for some hilariously unfinished Colossus effects in the bridge shootout sequence. A gag reel, meanwhile, adds plenty of laughs, while wrapping things up in similarly amusing fashion is a huge collection of short publicity videos and advertising spots featuring *Deadpool* lampooning himself, his film and pretty much anything else he can get his tongue into.



Morena Baccarin (below) has prior comic book form, with a key role in TV's *Gotham*



HCC VERDICT

Deadpool

→ Twentieth Century Fox
→ Ultra HD Blu-ray → £28

WE SAY: This left-field superhero flick sees Fox joining the Dolby Atmos party with great results

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

'Like me, this experimental surgery could transform you into a budget version of Jason Statham...'



Arcade Action

Bigscreen home entertainment isn't just about movies anymore. **Rik Henderson** checks out a videogame vying for time on your home cinema system...



Uncharted 4: A Thief's End

Sony Interactive Entertainment → PS4 → £50

There are few game series as cinematic as Sony and Naughty Dog's *Uncharted*, with the original trilogy commended for its action, adventure and tight, exciting storytelling. *Uncharted 4: A Thief's End* is on another planet, however. It is simply epic.

Lead hero Nathan Drake has become something of an icon in gaming terms, and will no doubt eventually make it onto the bigscreen too, but the developer has taken a bold step in proclaiming this to be his last outing. As much as that is shocking, it benefits a game that is rich in ideas, acting and glorious set-pieces. The kitchen sink has been thrown at it and it tells. The result is so wonderfully paced and constructed that its 16 or so hours of single-player gameplay seems short. You never want it to end.

Naughty Dog has clearly learned much from the superb *The Last of Us*, lifting the stealth engine from that horror title to give depth to Drake's many gun battles. It gives options on how to progress, where you can still blast your way through enemy-dense areas, but alternatively sneak and silently assassinate targets too. We found a mixture to be best, but different play styles will work.

Driving levels have also been added, although they are used more for additional puzzle-solving exploits than races. And then there are the many climbing and platforming sections – even more than we remember in previous instalments (which is no bad thing).

As the first game in the franchise to be native to the PS4 *Uncharted 4* naturally looks beautiful. There are more locations visited than in an average Bond flick and each has a different aesthetic. It also moves well, although Naughty Dog has opted for Full HD visuals and 30 frames per second, rather than dropping the resolution to meet a 60fps target. It's not as smooth as some recent games therefore, but is packed with detail and it maintains 1080p throughout. Its 7.1 soundtrack is also as involving as the story.

You will be thinking about *Uncharted 4* long after you complete it, and not because there's still multiplayer skirmishes to undertake. It crafts a tale that will stay in the memory like that of a five-star film. It is a blockbuster in every sense and a fitting end for a much-loved thief.



Eat your heart out, Lara Croft

Ballers: The Complete First Season

HBO → All-region BD
£35



Like some spiritual successor to *Entourage*, HBO's Dwayne 'The Rock' Johnson-fronted dramedy takes viewers inside the lives of the rich and famous. This time around the focus is

NFL players and their financial advisors, and if it doesn't quite get off to the same heady start that *Entourage* did, *Ballers* does at least have the bonus of the charismatic Johnson as its MVP. This Blu-ray release spreads its 10 half-hour episodes across two platters and delivers strong 1.78:1 imagery coupled with effective DTS-HD MA 5.1 audio. Only the paltry extras disappoint.



From Dusk Till Dawn: Season Two

Entertainment One → R2 DVD
£30



Finally freed from the confines of the Titty Twister and able to forge its own path away from the events depicted in the film, this sophomore season of *From Dusk Till Dawn* is a heck of a lot

more satisfying than the first. Disappointingly, while the show has been released on Blu-ray in most other territories, here in the UK it remains resolutely DVD-only. Still, for those fans who stubbornly refuse to import hi-def discs when the opportunity exists, they can rest assured that E1's standard-def UK release serves up colourful anamorphic 1.78:1 transfers, dynamic Dolby Digital 5.1 soundtracks and a fair array of bonus features.



The Hollow Crown: The War of the Roses

Universal Pictures → All-region BD
£30



The undoubted crown jewel of the BBC's efforts to mark the 400th anniversary of the death of William Shakespeare, this three-part series adapts the historical plays *Henry VI Parts I*

to *III* and *Richard III*. The result is six hours of dazzling, gripping and brutal TV drama, with Benedict Cumberbatch stealing the show with his electrifying portrayal of the scheming Richard III. This hi-def release presents the three episodes with detailed 1.78:1 visuals and forceful DTS-HD MA 5.1 audio. A half-hour *Making of...* doc and five deleted scenes are also included.



The perils of spending too long standing underneath a pigeon's nest...



Building up to a breakdown

Mesmerising adaptation captures the social satire and apocalyptic horrors of Ballard's novel

→ HIGH-RISE

A dishevelled Tom Hiddleston sits on a balcony surrounded by the accumulated detritus of modern life. Next to him a dog's leg roasts on a spit. Welcome to the world of *High-Rise*, a violent and darkly comic retro-futuristic satire on class warfare adapted from J.G. Ballard's supposedly 'unfilmable' dystopian novel of the same name.

Following the opening described above, the film flashes back three months and introduces us to physiologist Dr. Robert Laing (Hiddleston) as he moves into a new flat on the 25th floor of a luxury London high-rise. Equipped with all the latest mod-cons, the 40-storey tower even provides its tenants with a supermarket, gym and swimming pool.

Laing soon begins a relationship with the sexy single mother (Sienna Miller) who lives above him, and befriends TV producer Richard Wilder (Luke Evans) and his wife Helen (Elisabeth Moss), who live several floors below. But as the tower's services start to fail and supplies begin to dwindle, the divide between those living on the lower floors and those higher up becomes ever more fraught – and it isn't long before the entire tower devolves into a state of seething, murderous anarchy...

It may have taken producer Jeremy Thomas several decades to bring *High-Rise* to the bigscreen (his first shot was in the 1970s with Nicolas Roeg set to direct), but he finally found the perfect director for the project in Ben (Sightseers) Wheatley. While he's never been the most insightful filmmaker, the story's

social and political satire is so self-evident that it frees Wheatley up to once again indulge in the sort of pranksterish horror and stomach-churning thrills that made his earlier films so watchable.

Picture: Shot on Arri Alexa cameras, *High-Rise* arrives on Blu-ray with an extremely good-looking AVC Full HD encode. Framed at 2.40:1, the first half of the film is relatively brightly lit (highlighting the building's hard architectural lines) and although colours generally tend to be played down, there's still room for some vivid primaries (such as the red uniforms of the air stewardesses in Chapter 2).

Black levels are mostly accurate and shadow delineation is very good. However, on a few occasions banding becomes evident in low-light locations as the breakdown of order in the tower sees things get a lot darker (both figuratively and literally).

Audio: The film's DTS-HD MA 5.1 mix is a pleasing affair that gets more creative as the movie progresses (there's some effective deployment of muffled sounds across the soundstage as chaos takes hold in the tower block). However, the main focus of the mix remains Ballard's dialogue and the doomy power of Clint Mansell's complex score.

Extras: Ben Wheatley, Tom Hiddleston and Jeremy Thomas are on hand for a wonderful commentary packed with facts and anecdotes about the shoot (including a surprise admission about how they cast an orgy scene...). Also included are 20(!) interviews with the principal members of the cast and crew (but, oddly, not Wheatley), plus a four-minute promo entitled *Bringing Ballard to the Big Screen*.



Jeremy Irons (above) plays architect of his own demise, Anthony Royal



HCC VERDICT

High-Rise

→ StudioCanal → Region B BD
→ £23

WE SAY: This energetic satire looms large on Blu-ray thanks to its solid AV performance and informative supplementary features.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★



The West just got even wilder

Debut director S. Craig Zahler crosses new frontiers with this savage genre fusion

→ BONE TOMAHAWK

Hours after a mysterious stranger (David Arquette) arrives in the quiet Old West town of Bright Hope, it is hit by a raiding party, which whisks away the newcomer along with the town's doctor (Lili Simmons) and a young deputy (Evan Jonigkeit). Evidence left behind seems to point towards a mythical clan that resides somewhere known to Native Americans as the 'Valley of the Starving Man'.

Setting off in pursuit, sheriff Frank Hunt (Kurt Russell) is joined by the doctor's husband Arthur O'Dwyer (Patrick Wilson), 'back-up' deputy Chicory (Richard Jenkins) and gunslinger John Brooder (Matthew Fox). But none of them could even begin to guess at the nightmarish horror lying in wait at the end of their journey.

For his directorial debut, novelist and former cinematographer S. Craig Zahler takes the old-fashioned 'lost posse' Western storyline and crashes it headlong into the horror genre. What emerges is a smart, authentic and witty addition to the ongoing Western renaissance that comes to a head with a shocking *Grand Guignol* finale that would make Tarantino blanch but wouldn't look out of place in a '70s Italian splatter film.

Based on this, we can't wait to see what Zahler does next. And, to keep us going, there's also Ridley Scott's planned adaptation of Zahler's equally brutal and unflinching 2013 Western novel *Wraiths of the Broken Land* to look forward to as well.

Picture: Shot using Red digital cameras, *Bone Tomahawk* gallops onto Blu-ray with an impressive 1080p transfer. Framed at 2.40:1, the image is crisply



Yet another facial hair triumph for Kurt Russell...

detailed and features a warm colour palette that really gets the best out of the arid and desolate location footage. Meanwhile, blacks are deep and inky, ensuring that the shadowy tunnels that play host to the film's final act are as oppressive and terrifying as required.

Audio: The disc offers DTS-HD MA 5.1 and LPCM stereo versions of the film's soundtrack. Although it's not hugely dynamic, the 5.1 mix does an appreciable job of immersing you in the settings with its atmospheric effects, while gunshots have the crispness and power you'd expect. Dialogue and music are handled with perfection.

Extras: Carried over from the disc that hit the US at the end of 2015 are a 10-minute *Making of...* featurette and 35-minute *Fantastic Fest Q&A* with the cast and crew. However, in place of the deleted scene and poster gallery, UK buyers get a new 15-minute Q&A from the London Film Festival.



HCC VERDICT

Bone Tomahawk

→ The Works Film Group
→ All-region BD → £25

WE SAY: A fine Blu-ray package for this thrilling film. Western and horror junkies should grab it now!

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

A Bigger Splash

StudioCanal → Region B BD
£23



Based loosely on Jacques Deray's 1969 study of sexual jealousy *La Piscine*, this arthouse thriller stars the superb

Tilda Swinton as a rock star vacationing on an idyllic Mediterranean island with her boyfriend Paul (Matthias Schoenaerts). Their idyll is disrupted by the arrival of her uninhibited ex Harry (Ralph Fiennes) and his daughter (Dakota Johnson), creating a powder keg of carnal desires that could blow at any moment. In addition to gorgeous, sun-soaked 1.85:1 1080p visuals and effective DTS-HD MA 5.1 sonics, this tasty Blu-ray also serves up a chat-track, two featurettes and 16 deleted scenes.



The Ones Below

Icon Home Entertainment → R2 DVD
£20



An expectant mother finds herself dealing with more than the usual pressures when she starts to suspect

that the married couple who live in the flat downstairs have their own designs on her baby. Evocative of early Polanski, *The Ones Below* is a mostly satisfying British thriller that marks out debut director David Farr as a talent to keep an eye on. Eschewing Blu-ray, the film lands on DVD with a satisfactory anamorphic 1.85:1 transfer and a DD 5.1 track that favours a naturalistic soundfield. Modest extras include five interviews and four deleted scenes.



The Cook, the Thief, His Wife & Her Lover

Fabulous Films → Region B BD
£20



Violence, greed, sex and cannibalism. It may be the best part of three decades since Peter

Greenaway's Jacobean portrait of conspicuous consumption first hit the bigscreen, but it's lost none of its power to astound or offend in that time. Licensed under Universal, this Blu-ray is a clear step up from the former's lacklustre 2003 DVD presentation. Although there are no extras, the disc's DTS-HD MA 2.0 mix is pleasingly operatic and – despite occasional flecks of dirt and scratches – the 2.40:1 Full HD encode captures the film's lavish visuals in a pleasing fashion.



Enemy Mine

Eureka → Region B BD
£18



Wolfgang Petersen's 1985 sci-fi flick stars Dennis Quaid and Louis Gossett, Jr. as soldiers

on opposing sides of intergalactic war who crash land on an inhospitable planet and must overcome their differences and work together if they are to survive. Cheesy and heavy handed, this parable about tolerance isn't exactly a classic of the genre. Not that this has stopped Eureka from serving up a vivid 2.40:1 1080p encode partnered with involving DTS-HD MA 5.0 audio (an LPCM stereo mix is also included). Extras include an isolated music track and an extended scene from a German dub of the movie.



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Elizabeth was smart enough to choose a dress that wouldn't show any blood...



Bennet the zombie slayer

Genre mash-up would rather have Jane Austen rising from her grave than spinning in it

→ **PRIDE + PREJUDICE** **+ ZOMBIES**

Despite the addition of flesh-munching ghouls into the mix, the narrative core of *Pride + Prejudice + Zombies* is mostly true to Jane Austen's classic tale of love and status. As there, the primary focus of the story is headstrong Elizabeth Bennet (Lily James), who is first offended by and then attracted to the stiff and aloof Mr Darcy (Sam Riley). The major difference is that this time around the story plays out in a version of 19th Century England where the country is blighted by a mysterious outbreak of the undead. And, as well as being instructed in good manners, Elizabeth and her sisters (played by Bella Heathcote, Suki Waterhouse, Ellie Bamber and Millie Brady) have all had martial arts training in China. In other words, when these young ladies go to a ball in search of eligible suitors, they do so with knives and other weapons hidden under their corsets and bodices.

It's in these fun little juxtapositions and scenes that find the characters reciting familiar lines from Austen's novel while fighting off zombies that give this outlandish film its most enjoyable moments. But we'd be happier if there were more of them – while *Pride + Prejudice + Zombies* does a fantastic job with the Austen side of things, the undead material feels somewhat neutered.

There's some pleasingly icky zombie makeup that wouldn't look out of place in an episode of *The Walking Dead*. However, the carnage the creatures cause is just too restrained and well-



mannered to make them seem much of a threat. This isn't a problem when it comes to the film's central romance, but is a big issue when it comes to the apocalyptic finale that the filmmakers have cooked up.

Picture: For the most part, Lionsgate's UK Blu-ray offers a striking 2.40:1 Full HD image. Well-lit interiors and exteriors in particular are bright, colourful and reveal a wealth of picture information in every surface. This all serves to give the digital imagery a realistic quality and palpable sense of depth.

Sadly, the encode doesn't hold up quite as well in darker sequences, with a couple of scenes set in the basement of the Bennet house proving particularly problematic. Here the imagery looks dull and muddy, making the fights that take place in the scenes in question almost impossible to follow.

Readers with a 4K home cinema setup may be interested to learn that Sony Pictures has released the film on (region-free) Ultra HD Blu-ray in the US.

Audio: More satisfying is the film's DTS-HD MA 5.1 soundtrack, which turns out to be an aggressive affair that makes joyous use of the full soundfield. Effects movement around the speakers is smooth and convincing, action scenes are energetic and there's a sizeable low-end waiting to be unleashed.

Extras: The bulk of the extras consists of four short *Making of...* featurettes looking at various aspects of the production (but ignoring the project's difficult route to the bigscreen). Also included are seven deleted scenes, a gag reel and some of actor Matt Smith's alternate line-readings.

HCC VERDICT

Pride + Prejudice + Zombies

→ Lionsgate → Region B BD
→ £25

WE SAY: While it will struggle to fully satisfy either group of fans, we think that this off-kilter romance/horror is still worth a watch

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

Here Comes Mr. Jordan

Criterion Collection → Region B BD
£25



Criterion's access to the old Columbia Pictures library pays off yet again with an attractive HD outing for this 1941

adaptation of the play *Heaven Can Wait*. The film stars Robert Montgomery as a boxer whose spirit is 'rescued' from a plane crash by an officious angel, only to learn that it wasn't actually his time to die. Attempts to return his spirit to his body are foiled by the fact that it has been cremated, forcing him to inhabit a recently murdered banker instead. Additional goodies include an audio-only interview with Elizabeth Montgomery and a video appreciation of the film.



Gilda

Criterion Collection → Region B BD
£25



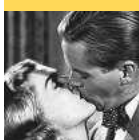
Created from a scan of a 35mm fine grain master, Criterion's 1.33:1-framed 1080p presentation of Charles

Vidor's sizzling film noir seems identical to the version that Sony Pictures released in selected European territories a couple of years back, and the image really impresses despite some very minor imperfections (including tiny flecks and the odd density fluctuation). However, this new Criterion release trumps the earlier disc with a greater selection of bonus features, including an audio commentary from film critic Richard Schickel and an interview with film noir historian Eddie Muller.



Too Late for Tears

Arrow Academy → All-region BD & RO DVD → £20



Husky-voiced Lizbeth Scott is a magnificent *femme fatale* in this 1949 noir thriller about a married couple who

chance upon a bag full of cash, only for the wife to decide that she'd be able to have more fun if her husband wasn't in the picture. Restored primarily using a French 35mm nitrate dupe negative (the only known surviving pre-print element), the Blu-ray's 1.33:1-framed 1080p encode exhibits plenty of wear and tear, but is surely the best the film will ever look. Extras include a chat-track, a retrospective *Making of...* featurette and a short restoration video.



Scott of the Antarctic

StudioCanal → Region B BD
£25



It may have become a fixture of Sunday afternoon TV in recent times, but this Blu-ray outing for the 1948

dramatisation of Captain Scott's ill-fated expedition to the South Pole restores the film to its bigscreen glory. A new 2K restoration captures the intended look of the tricky three-strip Technicolor source material; the only significant drops in quality stemming from the rougher-looking stock footage inserts that litter the film. Among the disc's agreeable extras are John Mills' home movies from the set and a look at the restoration process.



Welcome back, Charlie Brown

Big budget 'toon uses cutting-edge tech to pay respect to Schultz's simple comic strip

→ SNOOPY AND CHARLIE BROWN: THE PEANUTS MOVIE 3D

Given the ongoing popularity of Charles M. Schultz's *Peanuts* comic strip (which has continued appearing as reprints in newspapers around the world since his death in 2000) it's hard to believe that it's been around 35 years since the characters last hit cinema screens. The good news is that despite the enormous gap between 1980's *Bon Voyage*, *Charlie Brown* (and *Don't Come Back!!*) and 2015's *Snoopy and Charlie Brown: The Peanuts Movie*, nothing has really changed.

Okay, so this new film has been realised using 3D computer animation. But, aside from Snoopy's World War I flying ace daydreams, the visual style is so sympathetic to Schultz's original drawings (with their iconic single-line features) that it simply feels like a natural evolution of the earlier hand-drawn movies rather than a complete overhaul. And at its heart the film remains a tale of everyday childhood anxieties, as life's punching bag Charlie Brown seeks to reinvent himself and impress the Little Red-Haired Girl who just moved in to his neighbourhood.

As for what children used to more fast-paced thrills will make of such a leisurely film, who knows? But for anybody who grew up with the *Peanuts* strips and old TV specials, this is like going home again.

Picture: As you'd expect from a modern animated feature, this Blu-ray's 2D AVC 1.85:1 Full HD encode is an absolute stunner, bursting with bright colours and crisply delineated edges.



As for 3D, there's clearly a little more volume to the character models in the MVC encode, and environments gain a little more depth between foreground and background objects. The biggest beneficiaries are Snoopy's flying scenes (Chapters 5, 12, 17 and 20), but even these make fairly limited use of dynamic spatial effects.

Audio: As you could probably guess from the rest of the review, the operative word when it comes to the film's DTS-HD MA 7.1 mix is 'subtle'. Still, there are some pleasing atmospheric notes and, once again, Snoopy's fantasies provide the mix with some pep and the opportunity to open itself out.

Extras: Both versions of the film are joined by a five-minute preview of the next *Ice Age* 'toon (in 3D on the 3D disc, natch). The 2D platter also offers six Snoopy vignettes (the animated equivalent of four-panel strips), three *Making of...* featurettes, three *How to Draw...* videos, music videos, and more.



HCC VERDICT

Snoopy and Charlie Brown: The Peanuts Movie 3D

→ Twentieth Century Fox
→ Region A/B BD → £28

WE SAY: A modern BD package for this thoroughly traditional 'toon

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★



Truth is stranger than fiction

In-depth Blu-ray package reveals the bizarre history of Roger Corman's horror curio...

→ BLOOD BATH

Like several other Roger Corman productions we could name, the story of how *Blood Bath* came to be is far more interesting than the movie itself...

Early in the 1960s Corman agreed to co-finance the Yugoslavian crime film *Operation Titian* on the proviso that it would be shot in English and star William Campbell and Patrick Magee to give it wider commercial appeal. However, when Corman viewed the film it became clear that this talky, convoluted tale couldn't be released in the US in its present form. The B-movie maestro therefore brought in colleague Stephanie Rothman to reshape the film, eliminating a lot of travelogue-type material, re-ordering scenes and adding in newly-shot content. Re-titled *Portrait in Terror*, it still didn't live up to Corman's hopes and was duly shelved until 1967 when it was sold to US TV networks as part of a package of films.

Still determined to get something more out of his original investment, Corman brought in director Jack Hill to write and direct a new horror film about a mad artist who kills his models, and which could cannibalise footage from *Operation Titian/Portrait in Terror*. But still Corman wasn't satisfied, and so Rothman returned to film and shot even more new material – the result being the 1966 vampire flick *Blood Bath*. Does the story stop here? No. *Blood Bath*'s meagre 62-minute running time was deemed too short for TV broadcasts, so even more footage was shot to pad out the movie. And with this longer running time came yet another new title: *Track of the Vampire*. This joins *Blood Bath*, *Operation Titian* and *Portrait in Terror* on this two-disc BD set.



'Could someone remind me which film this is?'

Picture: *Portrait in Terror* and *Blood Bath* have both been restored from 35mm film elements and are by far the most consistent encodes in terms of quality.

Track of the Vampire primarily draws on the restoration of *Blood Bath*, with the added footage coming from a mixture of dupe negative and fine grain positive reels. The difference between source material is clear to see, but not really problematic.

Finally, *Operation Titian* has been reconstructed using restored footage from *Portrait in Terror* and standard-definition inserts. As you'd expect, this results in some fairly jarring shifts in image quality.

Audio: All four LPCM mono soundtracks are perfectly acceptable, but do betray their low-budget origins through limited dynamic range and some distortion.

Extras: The highlight here is the fascinating 81-minute documentary exploring the different versions of the film. Also included are interviews, a stills gallery, a poster and a 40-page booklet.



HCC VERDICT

Blood Bath: Limited Edition

→ Arrow Video → Region A/B BD
→ £28

WE SAY: This fascinating and comprehensive Blu-ray release is let down only by the films themselves...

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

The Witch

Universal Pictures → All-region BD
£25



A Puritan family in 1630s New England is torn apart by fear and superstition following the abduction of a baby. Rich in period details and adept at getting under your skin, Robert

Eggers' *The Witch* is a must for genre fans whose taste veers towards slow-building dread rather than simple scares. Universal's HD platter copes very well with the deliberately desaturated 1.66:1 1080p visuals, while the DTS-HD MA 5.1 mix is a masterclass in subtle-yet-spooky ambience. Sadly, this is tempered by a complete lack of extras, with the UK disc offering none of the goodies provided by Lionsgate for its US release.



It! The Terror from Beyond Space

101 Films → All-region BD
£13



While heading back to Earth from Mars, the crew of a rocket ship discover that they've inadvertently picked up

a deadly stowaway. If this sounds a bit like the plot to *Alien*, then that's because this 1958 B-movie is a clear precursor to Ridley Scott's sci-fi masterpiece. That isn't to say that *It!*... is remotely on a par with *Alien*, but it's only 69 minutes long and is an absolute hoot if you're in the right mood. This budget Blu-ray is a barebones affair, but sports decent 1.85:1-framed 1080p visuals and clean DTS-HD MA 2.0 dual-mono audio.



Night of the Living Dead

Umbrella Entertainment → Region B BD
(Australian Import) → £18



While the off-the-shelf hi-def master it was drawn from is showing its age, this Australian

release of Tom Savini's shrewd 1990 horror remake trumps US boutique label Twilight Time's 2012 release in two key regards. Firstly, this new disc is widely available, not limited to just 3,000 copies. Even more importantly, the 1.78:1 Full HD encode has none of the revised colour timing that blighted the earlier disc, resulting in a more authentic (and enjoyable) viewing experience. Extras include a chat-track, interviews and a 25-minute *Making of...* doc.



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Collecting...

Don't read the book...

High-Rise brings J.G. Ballard's 1975 novel to the bigscreen, and isn't the first time Hollywood has turned to the literary world for inspiration. **Fran Seden** outlines 10 of the best adaptations

THE LORD OF THE RINGS TRILOGY

Undoubtedly one of the most successful book-to-film adaptations ever, Peter Jackson took J.R.R. Tolkien's epic fantasies and recreated them faithfully and lovingly using the dramatic New Zealand landscape and an army of CG geeks. The first film bagged four Oscars, while the franchise following Frodo Baggins and crew ignited passion in the mainstream for the genre. Would we have *Game of Thrones* otherwise?

Get it: ...*Rings* fans are well-served by the 15-disc 2011 Extended Edition boxset, which features the longer cuts of all three movies (each housed on two Blu-ray platters) plus a treasure trove of bonus bits spread across no fewer than nine DVDs. It's the boxset to rule them all!

Peter Jackson's *LOTR* trilogy earned a total \$2.9bn at the global box office



TOTAL RECALL (1990)

Paul Verhoeven crafts a bawdy, noisy, mind-melting sci-fi from Philip K. Dick's 1960s short story *We Can Remember it for You Wholesale*, with Arnold Schwarzenegger as possible spy Quaid. Frantic, futuristic fun.

Get it: *Total Recall* has had a few different BD releases down the years – including a 2006 US version with an MPEG-2 encode. Thankfully, the most recent, from StudioCanal, features a Verhoeven-approved restoration and looks gorgeous.



A CLOCKWORK ORANGE

With plenty of 'krovvy' spillage and 'ultraviolence', Stanley Kubrick turns a difficult book (written by Anthony Burgess in 1962, largely in the made-up language Natsat) into a hard-to-watch but mesmerising movie, with Malcolm McDowell starring as a psychopath with a penchant for Beethoven and brutality...

Get it: Unreleased (at the request of Kubrick) in the UK since 1972 following alleged 'copycat' crimes, the movie surfaced on DVD/VHS in 1999, and Blu-ray in 2007.



JAWS

Peter Benchley's best-selling 1974 pulp novel about a massive killer shark was just begging for movie treatment, a challenge taken up by Steven Spielberg. The resulting cinematic experience knocks reading the book into a cocked hat. A brilliant cast, frightening score, Bruce the animatronic shark... *Jaws* is nothing less than perfection.

Get it: The film was finally released on Blu-ray in 2014, with a new-fangled 7.1 mix joining the original mono track.



BRAM STOKER'S DRACULA

Stoker's vampiric creation has been a staple of movies for years, including classic Universal offerings and Hammer's campy catalogue. Francis Ford Coppola's artsy 1992 adaptation (starring Gary Oldman as the toothy title character) is perhaps the most faithful to the source.

Get it: A recent US release from Sony Pictures features a new 4K restoration and, surprisingly, a Dolby Atmos soundtrack. Well worth importing if you can play Region A discs on your setup.



NO COUNTRY FOR OLD MEN

Javier Bardem as a chilling psychopath with a cattle gun vs. a brooding Josh Brolin (plus a blithe Tommy Lee Jones as the sheriff who admits 'this is no country for old men'), the Coen brothers are on top form with this 2007 adaptation of Cormac McCarthy's novel. A toe-curling Texas-set thriller that'll have you on the edge of your cinema seat, it does full justice to McCarthy's gripping page-turner.

Get it: Paramount's UK 2008 BD is a cracker, with a pristine transfer. A US-released Collector's Edition adds a few more extras.



DIE HARD

This festive filmic favourite is based on the novel *Nothing Lasts Forever* by writer and private detective Roderick Thorpe. As Roy Rogers wannabe New York cop John McClane, Bruce Willis brings fallibility, warmth and mischief to the dialogue, much of it lifted straight from the novel, while Alan Rickman menaces as Hans Gruber. It's the relationship between the two leads that makes this flick so enduring. And all the guns and explosions, of course.

Get it: Bag it on standalone BD or as part of a five-movie boxset with its inferior sequels.



THE SHAWSHANK REDEMPTION

This unlikely story, given it's not author Stephen King's usual horror fare but more of a proto-bromance, was brought to the bigscreen by Frank Darabont and regularly ranks as one of the world's most popular movies. The central pairing of Tim Robbins and Morgan Freeman have a certain childlike vulnerability about them; juxtaposed with the vile Warden Norton, this makes the final 'redemption' even more satisfying.

Get it: A two-disc UK Collector's Ed. offers extras, art cards, etc, but if you want lossless audio look out for a region-free US version.



FIGHT CLUB

More anarchic anti-capitalist manifesto than movie, this flick based on Chuck Palahniuk's novel divided critics between those who thought it a work of genius and those who feared copy-cat behaviour. Indeed, 'Fight Clubs' sprung up and were shut down. Contrasted in sickly lurid and washed-out tones, and with superb turns from Brad Pitt and Edward Norton, few recent films have had such a cultural impact.

Get it: The 2009 10th Anniversary Edition is an AV stonker, and has a fun D.I.Y. surround sound featurette.



APOCALYPSE NOW

Based on Joseph Conrad's classic *Heart of Darkness* and informed by Michael Herr's disturbing Vietnam War journal *Dispatches*, this epic, absorbing war drama directed by Francis Ford Coppola triumphs as a study into the psychological horrors of the conflict. It also serves as a slice of home cinema history, featuring the first ever 5.1 (Dolby Stereo 70mm Six-Track) surround mix.

Get it: Why have one *Apocalypse Now* when you can have two? The 2012 StudioCanal (née Optimum Releasing) Blu-ray features both the theatrical cut and the over-three-hour *Apocalypse Now Redux*. Copious extras, including commentary tracks and a feature-length *Making of... doc*, round out an impressive package.

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HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★★☆☆
Dire	★★★☆☆

All prices quoted are approximate and may have changed

TOP 10 Televisions

**Panasonic TX-65DX902B** → £3,300

★★★★★

This HDR-capable 65-incher wears its Ultra HD Premium certification with pride, and employs a full-array backlight to take control of its impressive luminance talents. Imagery is excellent; overall styling is appealing too. *HCC #259*

**Sony KD-75XD9405** → £5,000 ★★★★★

For this 75in HDR flagship, Sony adopts a full array LED backlight. The result is a step-up in image quality over smaller, edge-lit siblings. A big, bold – and expensive – TV. *HCC #261*

**Panasonic TX-65CZ952B** → £7,300 ★★★★★

Price tag and curved panel will put some off, but this OLED delivers on its high-end promise with show-stopping black levels and masterful colour handling. *HCC #256*

**LG 65EF950V** → £3,700 ★★★★★

An OLED TV with a flat rather than curved screen has instant home cinema appeal. Typically involving UHD performance, but not without some uniformity issues. *HCC #256*

**Samsung UE55KS9000** → £2,100 ★★★★★

Samsung's quantum dot/edge LED 4K/HDR looker claims UHD Premium certification. Image quality is routinely great, but light banding can distract and 3D is absent. *HCC #260*

**Sony KD-55XD9305** → £2,000 ★★★★★

Slim-line Android TV that dazzles with its smart design. New backlight tech promises HDR fireworks, but it's not the most subtle when it comes to illumination. *HCC #260*

**Panasonic TX-50DX750** → £1,300 ★★★★★

Mid-range 4K/HDR LED TV. Not as impactful as its DX902 stablemate when it comes to pictures, but a neat design, fun UI and appealing screen size will win it plenty of fans. *HCC #260*

**Hisense 65XT910** → £2,300 ★★★★★

The Chinese marque throws down the UHD/HDR gauntlet to its better-known rivals with this big, well-priced, high-spec TV. Bright and clear images, but short on motion subtlety. #257

**Hitachi 49GHT69U** → £500 ★★★★★

49in 4K screen that could appeal to those on tight budgets. This £500 set offers a smattering of catchup, decent connectivity and a generally enjoyable image. No HDR support, though. *HCC #260*

**Philips 55PUS8601** → £1,700 ★★★★★

The detachable side-mounted speakers, slim bezel and Ambilight make this upper midrange 4K set stand out. Imagery is bright and colourful, but black depth is average. *HCC #258*

TECH INFO: TELEVISIONS



What? No plasma?: The TV market is now dominated by LED-lit LCD screens. Manufacture and sale of plasma display panels (PDPs), which previously came into play above 42in, has ceased. With LED comes newer technologies. 4K models with a native resolution of 3,840 x 2,160 should at least be on your audition list if you're thinking of a new display; curved models are a consideration if you want to impress the neighbours. Look out for sets claiming support for HDR content, which is part of the forthcoming UHD Blu-ray spec.



Active or Passive: At the beginning of the 3D era, most TVs featured the Active system that uses relatively expensive, powered 3D specs to deliver full-res images to each eye. Passive 3D TVs, which are now more common, have a filter over the screen and use non-powered specs with polarising filters. The glasses are cheap as chips, but the resolution of Full HD 3D is halved to 540 lines horizontally (but remains at 1,920 vertically). The same halving occurs with a 4K screen. Some brands offer both Passive and Active models, depending on the panel used. Glasses-free 3D, heralded by Toshiba's early ZL2 TV, hasn't caught on. The tech is still being worked on, though.

TOP 5 Blu-ray movies

**The Revenant**

Leonardo DiCaprio excels in this brutal period survival drama, and it arrives on UHD Blu-ray with an HDR 10 encode that relishes the naturally-lit cinematography. Masterful DTS-HD mix, too, but more extras would be nice.

★★★★★

**Star Wars: The Force Awakens**

Mostly brilliant return to the world of wookies, lightsabers and the Dark Side. Although Disney says it's saving a 3D BD for later this year, this excellent 2D disc will do for most AV fans.

★★★★★

**The Hateful Eight**

Quentin Tarantino frames his star-studded, epic-length claustrophobic Western at 2.76:1 for a retro aesthetic and it looks remarkable on BD, with immaculate detail and deep, true black levels.

★★★★★

**Bridge of Spies**

Enthralling thriller from Steven Spielberg packed with first-rate performances and keen attention to detail. The BD is an AV stunner, too, although it misses a trick when it comes to extra features.

★★★★★

**Creed**

Sly Stallone's Rocky returns to the ring to train upstart boxer Adonis Creed in this classy, heartwarming drama. Warner's disc is lightweight when it comes to extras, but the Full HD picture and 7.1 mix pack a punch.

★★★★★

TOP 10 Blu-ray players

- 

Panasonic DMP-UB900 → £600 ★★★★★
 Boom! The Ultra HD Blu-ray format gets an inspiring debut in Panasonic's multi-talented deck that offers welcome user tweaks and a sterling picture performance. Smart skills include 4K-enabled VOD apps. *HCC #259*
- 

Oppo BDP-103D → £600 ★★★★★
 This deck adds Darbee Visual Presence processing to the already excellent AV skills of its BDP-103EU predecessor. Superb construction, usability and features/connections. *HCC #228*
- 

Pioneer BDP-LX88 → £1,100 ★★★★★
 The Japanese corp returns to the disc-playing high-end with a universal deck that weighs more than your AVR and drips with user tweaks and processing features. Stonking performer. *HCC #246*
- 

Oppo BDP-105D → £1,100 ★★★★★
 This heavyweight deck builds upon the premium picture performance of the BDP-103D with a wealth of audiophile upgrades – if you're serious about music, check it out. *HCC #234*
- 

Sony UHP-H1 → £400 ★★★★★ NEW ENTRY
 Likely to be its last top-line BD deck before Sony embraces UHD, this player pleases with wide-ranging audio support (including DVD-A!), exquisite construction and slick performance. *HCC #261*
- 

Arcam FMJ UDP411 → £1,200 ★★★★★
 Pristine visuals – including upscaled SD – and a classy sonic performance grant this Arcam instant appeal. The design and build is commensurate with the premium price tag. *HCC #244*
- 

Sony BDP-S7200 → £180 ★★★★★
 A Sony deck without the curious angular design, the BDP-S7200 offers SACD support, hi-res audio streaming and 4K upscaling that's worth investigation. Not too pricey, either. *HCC #239*
- 

Cambridge Audio CXU → £900 ★★★★★
 Styled to match the brand's other CX components, this universal deck matches its audio and video chops with plenty of features, including Darbee and HDMI switching. *HCC #253*
- 

Samsung UBD-K8500 → £430 ★★★★★
 Ultra HD Blu-ray player that'll find fans courtesy of its sensible price point, connected smarts and eye-catching visuals. Build quality is a little uninspiring. *HCC #260*
- 

Samsung BD-J7500 → £150 ★★★★★
 This well-priced spinner offers twin HDMI outputs and multichannel phono audio for flexible system hookup, an appealing design, smart features and solid AV chops. *HCC #247*

TECH INFO: BLU-RAY PLAYERS

Matching your deck to your AV receiver: Blu-ray decks are designed to deliver top-notch images but Blu-ray is also about enjoying superior quality sound. When choosing a player, bear in mind the connectivity and decoding features of your AV receiver. If you're still using an older model that doesn't offer HDMI inputs, then you'll need a Blu-ray player with multichannel analogue audio outputs to enjoy decoded hi-res surround sound formats. Similarly, older but still HDMI-equipped receivers may not be able to cope with 3D/4K/HDR output signals, in which case you'll need a deck with dual HDMI outputs – one channelling audio to your receiver amp, the other piping video direct to your TV.

What about the PlayStation?: Sony's console still represents an easy path to hi-def heaven. For a low-budget home cinema system, the £150 PS3 Super Slim makes a decent choice – especially if you like playing games. Control via a joypad is a pain, though, and the console runs more noisily than most BD spinners. The more expensive PS4 is a much better gaming machine, and now available in a 1TB version.



DEMO DELIGHT

Star Wars: The Force Awakens: Disney's 1080p BD offers a reference-quality 2.40:1 image, finding detail and depth in the 35mm/75mm photography, and relishing the colour-rich environments of this blockbuster sci-fi. Awesome.

OPPO®
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At the top of everyone's shortlist



TOP 10 Projectors

**Sony VPL-VW520ES** → £8,800

The top dog in Sony's domestic SXRD projector range, this couples native 4K optics with HDR compatibility for a state-of-the-art performance. Capable of jaw-dropping imagery and offers plenty of install flexibility. *HCC #254*

**Epson EH-LS10000** → £6,000 ★★★★★

Debuting a laser light source (30,000 hours) and Epson's 4K enhancement processing, this large chassis model is a cinematic triumph. Essential audition for a dedicated room. *HCC #247*

**JVC DLA-X7000** → £5,700 ★★★★★

With contrast and brightness improvements over the more affordable DLA-X5000, this is a great bigscreen option, although its SDR performance impresses more than HDR. *HCC #259*

**Epson EH-TW7200** → £1,800 ★★★★★

Priced to appeal to those unable to dabble in the £3,000 market, Epson's mid-ranger is a great purchase. No frame interpolation on offer, but colours, contrast and brightness impress. *HCC #232*

**Sony VPL-HW65ES** → £2,800 ★★★★★

Bright, flexible Full HD projector with impressive image chops and decent calibration options. But you'll need to ask yourself if you really want a 4K model instead.... *HCC #258*

**ViewSonic Pro7827HD** → £600 ★★★★★

Pictures impress from this single-chip DLP budget option that carries a third HDMI input designed for smart sticks. Includes ISF calibration and 12V trigger. 3D spex are an optional extra. *HCC #261*

**JVC DLA-X5000** → £4,000 ★★★★★

Fourth-gen eShift projector marries its pixel-shifting talents with a contrasty performance, HDR support and HDMI 2.0a. Not the smoothest with motion, and price tag is considerable. *HCC #257*

**Optoma GT5000** → £1,000 ★★★★★

Ultra short-throw model with healthy brightness that makes sense for regular living rooms where a traditional install isn't possible. Casts Full HD images from just 30cm. *HCC #261*

**BenQ W2000** → £800 ★★★★★

Average black-level performance limits this model's all-round appeal, but elsewhere this Full HD DLP budget PJ catches the eye with its calibration options and detailed visuals. *HCC #257*

**Optoma HD91+** → £3,500 ★★★★★

This LED/DLP Optoma claims a 20,000-hour lamp life. Setup features include a 1.9x zoom and image quality is generally excellent. Close in price to JVC's 4K eShift line, however. *HCC #252*

TECH INFO: PROJECTORS



Installation: Although projectors can be temporarily placed on a cupboard, stand or shelf situated at the rear of the room (use the adjustable feet on its base to level the image so that it aligns with the screen), a much better long-term solution is to mount it on your ceiling with an appropriate bracket. Projectors can be quite heavy, though, so it's important to ensure that the bracket is attached firmly – ideally, it should be secured to a joist. Position your PJ so that an imaginary line from its lens to the opposite side of the room hits the screen exactly half-way along its width. The location of your screen should therefore dictate where your projector is. A decent tape-measure or laser pointer will help you to determine the position.

Throw distance: Throw distance specifies the distance between the projector and screen for a focused image of given size. As the vast majority of projectors are equipped with a zoom lens, minimum and maximum throw distances are often specified – say, 3.01m to 6.08m for a 100in. 16:9 image. Shorter throw distances are ideal for smaller rooms, and longer ones for larger rooms. Simple.

Throw ratio: Sometimes, a manufacturer will quote a throw ratio rather than a throw distance. This is basically the throw distance divided by the image width. To get the projected image size, divide the distance between projector and screen by the specified figure. Once again, the inclusion of a zoom lens means that upper and lower figures are usually specified.

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TOP 10 Speakers


- 


Monitor Audio Gold 300AV → £7,150 ★★★★★
 MA revamps its Gold Series and we pay serious attention. This big-ticket package excels across the frequency range, offers exquisite design and packs setup flexibility via the dipole/monopole FX surrounds. *HCC #251*
- 


Q Acoustics 3000 5.1 Cinema Pack → £700 ★★★★★
 A superior compact package with driver improvements over the previous 2000i series. The two-way cabinets and dual-driver sub combine to offer impressive audio for the money. *HCC #247*
- 


XTZ Cinema Series 5.1.4 → £3,700 ★★★★★
 Spectacular dynamics, gut-thumping bass and a sense of scale that most systems at this price only dream of – XTZ's 3D audio-ready setup is an easy recommendation. *HCC #259*
- 


KEF R Series 7.1 → £6,500 ★★★★★
 A 7.1 array mixing dipolar and direct surrounds, this authoritative package takes its cues from KEF's Blade concept speaker and offers faultless, largescale home cinema sonics. *HCC #217*
- 

Monitor Audio Bronze B5 AV → £1,500 ★★★★★
 Like their Gold siblings, these feature switchable surround speakers and MA's C-CAM drivers. Smaller in stature and output, but eminently more affordable. *HCC #254*
- 

Wharfedale Diamond 220 HCP → £850 ★★★★★
 This package offers a lot for less than a grand – two-way surrounds, a potent three-driver centre channel and agile subwoofer. Great movie sound and excellent build. *HCC #248*
- 

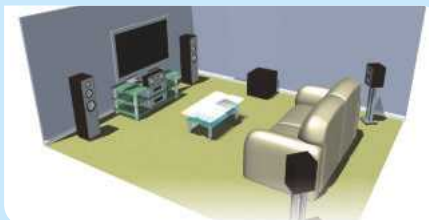
DALI Opticon 5.1 → £3,200 ★★★★★
 The Opticons employ driver designs created for DALI's higher-end models, and showcase a talent for both involving music presentation and high-octane home cinema. *HCC #260*
- 

Tannoy Revolution XTF 5.0 → £2,000 ★★★★★
 The entry-level for Tannoy's Dual Concentric driver tech, the XTFs have real all-round appeal – the sound is both energetic and balanced. You'll need to add a sub, of course. *HCC #258*
- 

Q Acoustics Concept 5.1 Cinema Pack → £1,750 ★★★★★
 Step-up Q Acoustics offering with handsome floorstanders joined by standmount surrounds employing the Concept Gelcore construction. Classy, consistently neutral performance. *HCC #257*
- 

JBL Arena 5.1 → £850 ★★★★★
 With horn-loaded tweeters derived from JBL's costlier packages, this floorstanding set doesn't skimp on impactful, dynamic thrills. Subwoofer is pretty basic. Solid sub-£1,000 array. *HCC #256*

TECH INFO: SPEAKERS



Centre speaker: Handles most of the dialogue and onscreen effects. Should be positioned above or below the screen as close to it as possible. Of course, if you're using a projector screen, it should ideally be placed behind it.

Front speakers: Left and right speakers should be positioned either side of the screen, in line with the centre. Turn the speakers in slightly to face the listener if there isn't an even movement of sound across the front of the room.

Subwoofer: Can be positioned wherever it sounds best or can be tucked out of sight due to the non-directional nature of low-frequency signals. Be aware that close positioning in corners or next to walls can create a boomy effect.

Surrounds: Position alongside the listener, pointing in or slightly behind the ears for a good surround effect. The back wall is not a good position for surrounds – it is, in fact, where you should locate the sixth and seventh speakers (rears) in a traditional 7.1 array.

DEMO DELIGHT

Mad Max: Fury Road: This outback actioner comes complete with an inventive, detail-packed Dolby Atmos soundtrack that has to be heard to be believed. Music and atmospheric effects are regularly shunted into the height channels, the subwoofer puts in a serious shift, and object placement is remarkable. Play it loud!

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Photo courtesy of Gary J.Fernandez

TOP 10 AV Receivers/AV Processors

**Onkyo TX-NR3030** → £2,500

★★★★★

The big daddy of Atmos AVRs, this 11-channel design enables four height speakers to be added to an existing 7.1 array with ease. Lithe on its feet and with exemplary steering, this is multichannel audio at its best. *HCC #245*

**Denon AVR-X7200WA** → £2,500 ★★★★★

Now upgraded to DTS:X, and sporting HDCP 2.2 support, this Atmos AVR is as futureproofed as it gets. Only a nine-channel design, though. *HCC #248*

**Arcam AVR850** → £4,200 ★★★★★

High-end seven-channel AVR marrying Class G amplification and Atmos (and future DTS:X) support with talented Dirac Live Room EQ. 11-channel pre-outs for full-fat setups. *HCC #257*

**Marantz AV8802A** → £3,350 ★★★★★

This 11.2-channel next-gen processor (Atmos, DTS-X and Auro-3D) is an obvious upgrade for a high-performance separates system. Luxuriant, natural sound quality. *HCC #253*

**Denon AVR-X1200W** → £300 ★★★★★

Excellent budget seven-channel option, packing 3D audio support, 4K/HDR-capable HDMI inputs and a lively, neutral audio performance. Good-looking and easy to use, too. *HCC #259*

**Marantz SR7010** → £1,100 ★★★★★

Featuring typically sultry Marantz styling, this 9 x 125W receiver has an extensive feature roster (hi-res networking, object-based audio, etc) and a smooth, cohesive soundstage. *HCC #261*

**Pioneer SC-LX89** → £2,100 ★★★★★

Controlled but lively-sounding 9.2-channel AVR (Atmos, DTS:X) that's packed with tweaks. MCACC calibration impresses, but the overall complexity here could be a turn off. *HCC #256*

**Yamaha RX-A550** → £550 ★★★★★

Only a 5.1-channel model – and subsequently not endowed with Atmos/DTS:X chops – the RX-A550 impresses with its audio performance, design and networking features. *HCC #252*

**Cambridge Audio CXR120** → £1,500 ★★★★★

This Brit-designed 7.2-channel receiver focuses on performance and ignores object-based audio and built-in Bluetooth. Sound quality is assured and construction is monstrous. *HCC #251*

**Onkyo TX-RZ800** → £1,050 ★★★★★

Feature-packed (DTS:X, HDCP 2.2) and sporting a new, clean design, Onkyo's mid-priced nine-channel AVR is easy to use and sounds sprightly, if a little short on aggression. *HCC #253*

TECH INFO: AV RECEIVERS



Tackling new heights: A recent innovation in AVR circles is the introduction of Dolby Atmos, the object-based sound format that has taken off in commercial cinemas and is supported in the home by the likes of Onkyo, Pioneer, Denon, Marantz and Yamaha. This requires new height speakers in addition to a regular 'flat' 5.1 or 7.1 speaker configuration. The heights can either be physically mounted in/on your ceiling, or provided via up-firing reflective models. Setup can be complex, but the results are certainly impressive. Atmos-encoded Blu-rays are a bit thin on the ground, but you can use Dolby Surround post-processing with regular 5.1/7.1 soundtracks to get the most from your new AVR/speakers. Rivals to Atmos are Auro-3D, which uses height speakers in a different configuration, and DTS:X. Most AVR brands have pledged support for the latter; software is beginning to arrive.

How much power?: Many of the mass-market AV receiver manufacturers are involved in a specifications race to see who can say their model is the most powerful, which can be confusing for consumers. For instance, both Krell's £7,000 S-1500 seven-channel power amp and Yamaha's £500 RX-V675 both claim 7 x 150W – the important part is that Krell's figure is into an eight-ohm load with all channels driven, and that Yamaha's is with one channel into a four-ohm load, which is hardly a real-world situation. The best advice is ignore the numbers game and get a demo of your desired AVR with the same, or similar, speakers that you intend to partner it with.

TOP 5 Bonus features

**Kingsman: The Secret Service Revealed**

A lengthy (92-minute) doc that is a must-watch for fans of the kinetic British comic book adaption, this looks back at the movie's origins and delves deep into its production.

★★★★★

**Secrets of the Force Awakens...**

This 70-minute *Making of...* feature accompanying the latest *Star Wars* flick is essential viewing for franchise fans, going into detail about director JJ Abrams' production processes.

★★★★★

**Pawns No More: Making The Hunger Games: Mockingjay – Part 2**

Who expected this action flick to be accompanied by an epic 141-minute eight-part doc that covers practically everything about the film's production?

★★★★★

**The Life, Legacy and Legend of Don Borchers**

Brilliant documentary addition to the *Children of the Corn* Trilogy boxset focusing on the career of producer Don Borchers. Stuffed with insight, humour and Hollywood tales.

★★★★★

**Production Diaries**

A bumper collection of featurettes accompanying *Bad Boys II* on BD. Image quality may be standard-def, but there's plenty of input here from Bay and insight into his madcap filmmaking world.

★★★★★

TOP 10 Subwoofers

- 

SVS SB-2000 → £600 ★★★★★

This follow up to the SB-1000, which incorporates a new 12in driver and revamped Sledge DSP amplifier, offers immense value for money. A mid-sized woofer that imbibes your Blu-rays with potent LFE, the SB-2000 sounds quick and taut, and is a perfect introduction to what a truly good sub can accomplish. *HCC #233*
- 

REL 212SE → £2,750 ★★★★★

Lush design joins engineering nous in this premium sub with two active 12in drivers supported by a pair of passive radiators. Loud, deep and impactful, your BDs are in safe hands. *HCC #246*
- 

NEW ENTRY

JL Audio Fathom f212v2 → £6,500 ★★★★★

A second-gen outing for JL's 2 x 12in monster, with an increase in power (now 3,600W) and improvements to the room EQ system among the changes. Sounds as good as you'd imagine. *HCC #261*
- 

REL S-5 → £1,600 ★★★★★

A step up from REL's affordable T series, this 12in model is large and weighty, with a performance level to match. Fast and tight but capable of dropping very low indeed. *HCC #234*
- 

Bowers & Wilkins PVID → £1,200 ★★★★★

One of the coolest-looking subs on the planet, B&W's PVID uses DSP trickery to craft an opulent low-end performance. The touch-sensitive OLED display is pure class. *HCC #212*
- 

BK Electronics P12-300SB-DF → £475 ★★★★★

Bass heads can get outrageous value for money in the shape of BK's overperforming 12in sub. A front-firing model is also offered, and other finishes knock the ticket down to sub-£400. *HCC #247*
- 

NEW ENTRY

ELAC SUB 2070 → £1,300 ★★★★★

A dual-driver, 600W sealed sub with control and onboard EQ system driven by a free Android/iOS app. Meaty, assured performance, with useful tweaks offered. *HCC #261*
- 

JL Audio Dominion d108 → £900 ★★★★★

Compact subwoofer that employs an innovative 8in driver (and a 500W amp) to go bigger and deeper than you might imagine. Compatible with JL Audio's JLink wireless system. *HCC #260*
- 

Eclipse TD520SW → £3,000 ★★★★★

This twin 8in woofer, driven by ICEpower amplification, aims for ultimate speed and tone – and succeeds. Simply put, the TD520SW is worth every penny of its asking price. *HCC #249*
- 

Artison Nano 1 → £800 ★★★★★

Artison's media room-friendly woofer tucks twin 6.5in bass drivers and a 300W amp into its compact frame. Bass extension isn't the deepest, but this is tight, fast and heaps of fun. *HCC #253*

TECH INFO: SPEAKERS



Why use more than one sub?: Using two subwoofers (or perhaps four) should, in theory, bring huge rewards in terms of bass performance. But remember that LFE is a tricky beast to control. Running two subs may simply double problems in your room like room boom and suck-outs, where outgoing and reflected bass sounds cancel each other out. If you have some flexibility in where you place subwoofers, trial and error may well throw up some interesting results. The acoustics wizard Floyd E Toole (his book *Sound Reproduction: The Acoustics and Psychoacoustics of Loudspeakers and Rooms* is fine bedtime reading) suggests one LFE sub to either side of the room may be best for accuracy while placing them in the front corners would be best for overall bass power. Yet there is no hard and fast rule as to what will work best for every room, and you may find that simply using one (large) subwoofer is preferable as it's the easiest to get sounding right.

DEMO DELIGHT

San Andreas: This brilliantly over-the-top SFX-heavy disaster flick magicks up a scenario where both downtown Los Angeles and San Francisco (not to mention the Hoover Dam) are hit by mega earthquakes, and its Atmos mix is subsequently loaded with LFE. Buildings topple and pavements tear apart with real fear-inducing weight, keeping your sub on its toes for much of the 110-minute running time.

TOP 5 Console games



Tom Clancy's The Division
Ubisoft's long-gestating online multiplayer RPG/shooter proves worth the wait, courtesy of its well-realised future New York environment, varied gameplay (including solo missions) and grin-inducing weaponry. ★★★★★



LEGO Marvel Avengers
The best platform/puzzler yet from the TT Games LEGO... franchise. Packed with your favourite Marvel characters, it takes plot queues from the blockbuster movies. Smart, funny and offers plenty of game-time. ★★★★★



Dead Souls III
Third-person action-filled fantasy sequel with excellent visuals (particularly the terrifying bosses) and improved game mechanics over previous entries in the franchise. Challenging – but rewarding – gameplay. ★★★★★



Metal Gear Solid V: The Phantom Pain
Our pick for 'Game of the Year' in 2015, this open-world stealth/actioner dazzles with its breadth, interaction, flexibility and lush visuals. A fitting end to the legendary series. ★★★★★



Transformers: Devastation
Forget the Michael Bay movie series, this action-packed Transformers game harks back to the 1980s 'toon series. As such, it looks lush, with its cel-shaded style igniting childhood memories. And it plays great too. ★★★★★

TOP 10 Accessories

- 1 KEF R50 → £600 ★★★★★**
 KEF's Dolby Atmos-enabled reflective modules are a smart choice for anyone looking to beef up their speaker system. Using the company's Uni-Q point source drivers pays real dividends, enabling full-range sonics that reach deep into your cinema room. Styling and build quality are first rate. £600 gets you a pair – you'll soon want four... *HCC #252*
- 2 Amazon Fire TV 4K → £80 ★★★★★**
 Amazon reboots its media player to include 4K video prowess, greater storage capability and a souped-up engine. The result is an intuitive add-on that's ideal for 4K TV owners. *HCC #254*
- 3 Asus RT-AC87U → £160 ★★★★★**
 A high-spec router can help you get the best from home media streaming – this feature-laden dual-band Asus impresses with speed and range and customisation options. *HCC #259*
- 4 QNAP HS-251 → £300 ★★★★★**
 Adding HDMI connectivity to a NAS device is surprisingly useful – and this slim-line model from QNAP is styled to grace your living room. Flawless media playback and responsive. *HCC #248*
- 5 Now TV → £15 ★★★★★**
 Among the new tricks of this second iteration of Sky's compact streamer are 1080p output, microSD and USB inputs and a faster processor. And it's still ridiculously affordable. *HCC #253*
- 6 Pioneer XDP-100R → £500 ★★★★★**
 Android-based hi-res audio/video player that's ready for MQA files and sounds smooth and detailed. The 720 x 1,280 screen (4.7in) is up to the job with VOD apps and games. *HCC #256*
- 7 Philips Hue → £180 ★★★★★**
 These Wi-Fi-enabled lightbulbs might be expensive (this £180 starter pack includes two, plus the Wi-Fi bridge) but making your own multicoloured lighting scheme is a blast. *HCC #220*
- 8 Logitech Harmony Elite → £270 ★★★★★**
 Flexible and relatively easy to set up, this all-in-one remote package combines touchscreen handset and hub with smart device app. Worthwhile if you have a stacked kit rack. *HCC #256*
- 9 Devolo dLAN 550 Wi-Fi Starter Kit → £100 ★★★★★**
 Affordable Powerline option bringing stable data transmission (plus Wi-Fi) to an additional zone via mains wiring. Extra plugs sold separately for £60. Not the fastest around. *HCC #260*
- 10 Sony PlayStation 4 → £350 ★★★★★**
 The PS4 offers a killer gaming experience, with the under-the-hood power resulting in great-looking games. Spins Blu-rays, too (including 3D), but don't expect 4K disc playback. *HCC #229*

TECH INFO: MEDIA PLAYERS



What about my TV?: Most flatscreen TVs from the major brands (Sony, Samsung, Panasonic, LG, Philips, Hisense, etc) also incorporate media player functionality, using Ethernet or Wi-Fi to stream from your home network, or from plugged-in USB drives. Most modern Blu-ray players offer this, too. However, file support is rarely as extensive as on dedicated devices from the likes of Western Digital and A.C. Ryan, and our experience shows some are more adept at playback from USB than over a network. Nor (obviously) is a TV or BD player portable. If your media collection extends beyond JPEGs and MP3s into lossless audio rips and esoteric HD video formats, then a standalone player is a good investment.

Storage: You can, if you really want, store all your files on a plethora of USB drives, or on your PC, but it's best to get a NAS (Network Attached Storage) device for simplified sharing of your media across a network with



multiple players, such as one from Netgear's ReadyNAS range (pictured). These dedicated devices often offer RAID array file backup, and are managed via browser software. Storage capacity can be anything from 1TB to 12TB and beyond.

TOP 5 Blu-ray/DVD boxsets

**American Horror Project: Volume One**

First in a planned series of boxsets focusing on forgotten US fright flicks, this collects a trio of solid '70s horrors (with variable image quality) and bundles them with plenty of extras.

★★★★★

**Doctor Who: The Complete Ninth Series**

Peter Capaldi's sophomore year as the Time Lord packs 12 superb episodes plus the 2014/2015 Christmas specials. This BD set carries 1080i50 encodes and DTS-HD 5.1 soundmixes.

★★★★★

**Mr. Robot: Season One**

Brilliant tech-infused TV thriller/drama series that already has us psyched about Season Two. Music-minded DTS-HD Master Audio 5.1 mixes grace this boxset's ten Full HD encodes. Not many extras, though.

★★★★★

**Dissent and Disruption: Alan Clarke at the BBC (1969-1989)**

Mega boxset with a mega price tag (£150) featuring a comprehensive collection of Clarke's work spread across 11 BDs and two DVDs.

★★★★★

**Banshee: The Complete Third Season**

US drama series that dazzles with its action set-pieces. This 10-episode third run, split across four discs, offers superb 1080p encodes and suitably bruising DTS-HD MA 5.1 mixes.

★★★★★

TOP 10 Soundbars & Soundbases



Yamaha YSP5600SW

→£1,900 ★★★★★

With its 46 drivers (including upfiring) this premium 'bar delivers precisely-steered and immersive audio, even of the Atmos variety. Potent wireless sub and 4K-capable HDMI switching sweeten the high-end deal. *HCC #254*



Canton DM55 →£330 ★★★★★

Canton's smallest soundbase still delivers big sonic thrills. Twin woofers underpin clean and crisp mids and highs, and build quality is first-rate. Doodle to use. Bluetooth built-in. *HCC #260*



Sony HT-XT3 →£450 ★★★★★

A great-sounding soundbase blessed with HDMI connectivity, HDCP 2.2, Wi-Fi, Bluetooth, multiroom support, screen mirroring and app control. There's little to complain about. *HCC #250*



Geneva Model Cinema →£550 ★★★★★

The Swiss brand comes up trumps with this five-driver Bluetooth-capable soundbase. It musters a massive sound with huge dynamics, rich bass and articulate highs. *HCC #261*



Q Acoustics Media 4 →£330 ★★★★★

A no-nonsense offering from the speaker specialist, which ignores HDMI inputs and daft DSP modes in favour of creating a nuanced, solid 2.1 soundscape. *HCC #238*



Canton DM100 →£530 ★★★★★

An assured 2.1 performance delivered by an eight-strong array of separate tweeters, mid-range and bass drivers in a 1m enclosure. Suited to the large screens of today's 4K world. *HCC #253/#261*



Sony HT-RT5 →£500 ★★★★★

Sony joins the growing 'soundbar with wireless surrounds' market with an enjoyable debut that packs some worthwhile DSP modes and plenty of media-savvy functionality. *HCC #257*



DALI Kubik One →£800 ★★★★★

The Danish speaker brand brings a slice of glamour to your setup with this stylish soundbar. No HDMI or digital decoding but it packs a tight, lively and nuanced sound. *HCC #248*



Yamaha YSP-1600 →£500 ★★★★★

With support for Yamaha's MusicCast multiroom and a tasty low-end even without a subwoofer, this 'bar is a solid one-box solution. Single HDMI in/out, old-fashioned UI. *HCC #258*



Orbitsound A70 →£500 ★★★★★

Not overly specified – there's no HDMI, for instance – but this elegant 'bar/sub combi just about justifies its price tag with an enveloping and very well-balanced performance. *HCC #251*

TECH INFO: TV PLATFORMS



TV addicts – go free, or pay-to-view?:

The analogue switch-off has created a competitive market in free-to-air platforms, while Sky and Virgin Media are squaring up to the likes of EE TV, Amazon Prime and Netflix. Deciding which service is right for you can be complex, and you may find your needs are best catered for by a combination.

Sky+HD: The long-running satcaster offers a plethora of HD channels, with content including recent movie releases, live sports and sought-after US shows. Hardware options include the 2TB dual-tuner PVR. An upgrade, dubbed Sky Q, is arriving soon, and will offer 4K support among its tricks.

Virgin Media TiVo: The cable giant offers a three-tuner PVR (1TB) with intelligent TiVo recording tricks, catch-up apps (including Netflix and Spotify), and over 240 channels (depending on package). Premium Sky content can be added on a monthly basis.

Freeview: Common option when it comes to TVs and STBs. Freeview offers 13 HD channels plus SD and radio. Freeview Play adds IPTV integration to the EPG – and you'll find it on some Panasonic TVs.

Freesat: Satellite service offering a similar – but not identical – channel lineup to Freeview, delivered via a dish but without a subs cost. Budget-priced STBs are available.

YouView: This relatively new kid on the block integrates the UK's main catchup portals directly into a backwards EPG. Again, channels are broadly similar to Freeview and there's no contract. Humax (PVRs) and Sony (TVs) are leading the hardware charge.

TOP 5 Back-catalogue Blu-rays



Bad Boys/Bad Boys II: 20th Anniversary Edition

The first time Michael Bay's brash sequel has been available on Blu (joined by the original). It arrives with an eye-popping HD image, zippy DTS-HD 5.1 mix and lots of archival extras.

★★★★★



The Tragedy of Macbeth

Roman Polanski's brutal 1971 Shakespeare adaptation is chosen as one of the first Criterion Collection Blu-rays to hit the UK. A new hour-long doc is the pick of the extra features. Audio is 3.0-flavoured.

★★★★★



Killer Dames: Two Gothic Chillers by Emilio Miraglia

Double bill of terrific '70s murder mysteries from the Italian giallo director bundled into a fan-pleasing set with chat tracks, featurettes, trailers, interviews and a 60-page booklet.

★★★★★



The Third Man

StudioCanal takes a second stab at releasing this celebrated 1949 Brit-noir starring Orson Welles, rewarding buyers with an excellent image taken from a 4K restoration plus some new documentary material.

★★★★★



Citizen Kane: 75th Anniversary Edition

Warner's excellent 4K restoration of this classic flick gets a UK outing on a premium Blu-ray release – extras include commentary tracks, a 48-page book and more.

★★★★★



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EDITOR'S CHOICE
★★★★★

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TOP 5 PVRs



Virgin Media TiVo, £subscription

This triple-tuner PVR offers recording flexibility, useful features – you can undelete deleted shows! – and smart TiVo functionality. If you're in a cable area, consider it.

★★★★★



Sky Q, £subscription

Sky's new top-tier product offering dazzles with its image-rich user interface, wireless multiroom skills and recording flexibility delivered by the PVR's 12 tuners. Ready for 4K content when it finally comes.

★★★★★



Humax HDR-1100S, £190

Freesat Freetime PVR that impresses with its usability, VOD options and form factor – Humax's small, white box will slot into any kit rack. We tested the 500GB version – 1TB and 2TB models are also available

★★★★★



Humax DTR-T4000, £subscription

This YouView-based PVR is required to get BT Sport's new Ultra HD channel – available to those with BT fast fibre and a BT TV sub. Easy to use and with 1TB of storage

★★★★★



EE TV Smart Box £subscription

This quad-tuner 1TB PVR, from the mobile/broadband corp, offers innovative Replay 24-hour channel recording and great Smart device streaming. Needs more catch-up though

★★★★★

TOP 5 Headphones



Sony MDR-HW700DS, £800

Comfy cans supplied with an HDMI surround processor, enabling multichannel audio to be fed to a virtual 9.1-channel soundstage. The effect is superb – great for late-night listening

★★★★★



Sony MDR-1ABT, £300

Another cracking Sony pair with a good sonic balance, here with integrated Bluetooth allowing for cable-free movie watching (although they can be used wired too). Large design perhaps not suited to travel

★★★★★



Lindy Cromo NCX-100, £100

A cost-effective domestic option and great for travelling, these noise-cancelling 'phones (which can also be used as a normal passive design) feature a pleasant, balanced sound

★★★★★



PSB M4U1, £220

Aimed at both home and on-the-move use (and supplied with a carry case and two cable options), the M4U1s offer solid bass response and impactful highs. Build quality is good, as is comfort

★★★★★



Beyerdynamic T70, £330

Closed-back cans with excellent weight distribution for a comfy fit and a sound that doesn't put a foot wrong. These motor through movie soundtracks with vigour, clarity and a solid low-end

★★★★★

TOP 5 Wireless speakers



KEF Muo, £300

Portable Bluetooth speaker that's a cut above much of the competition. KEF's sonic knowhow results in a punchy, dynamic presentation that cherishes lossless rips. Excellent build quality

★★★★★



Sony SRS-X11, £60

An affordable palm-sized Bluetooth speaker with internal rechargeable battery, Sony's SRS-X11 is supremely portable and sounds decent for the money. A neat little gizmo. Get two and they can work in stereo

★★★★★



Samsung WAM7500, £500

Also known as the R7, this addition to Samsung's multiroom system delivers authentic omnidirectional sonics via its super-stylish oval-shaped enclosure. Expensive, but excellent

★★★★★



Simple Audio Listen, £400

Desktop stereo speakers with Bluetooth support, these benefit from separate tweeter/midbass units and a classy construction. Performance is well-balanced, and a subwoofer output is offered for extra bass

★★★★★



Geneva AeroSphere Large, £650

Dramatic-looking Wi-Fi/Bluetooth-enabled speaker melding a 6in bass driver to tweeter and mid-range units for an impressively beefy sound. Can link with other AeroSphere kit

★★★★★

HOME CINEMA

Choice

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Denon & Marantz Tech talk with AV giant
How to... Unleash your inner hi-fi buff in your cinema setup

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CONTENTS SUBJECT TO CHANGE – BUT ONLY FOR THE BETTER



AV Avenger

Has Microsoft just saved the 4K Blu-ray format with Xbox One S? **Steve May** imagines a future where these consoles sit in everyone's setup – although he may well wait for Project Scorpio

IT'S COMMON KNOWLEDGE that Sony broke the back of 1080p disc rival HD DVD with the PlayStation 3. That games console would never become the games champion Sony hoped for, but this Trojan horse had more than enough owners to cause Hollywood movie studios to pledge allegiance to Blu-ray. Microsoft had only half-hearted interest in HD DVD for the Xbox 360, so the die was cast.

But in a bizarre reversal, could Xbox be about to throw a lifeline to Ultra HD Blu-ray? At this year's E3 Games Expo, Xbox chief Phil Spencer introduced the Xbox One S, which transpires to be rather more than just a cut-down version of the first Xbox One. Sure, it's 40 per cent slimmer and available in trendy white livery, and, yes, it can stand upright as well as lay horizontal, but it's also (drumroll please) 4K-ready. The console comes with an Ultra HD Blu-ray-capable disc drive, and supports 4K streaming from Netflix and Amazon Video. This is hugely significant for the 2160p home entertainment market.

The Xbox One S comes in three HDD iterations: 500GB, 1TB and 2TB. The latter is described as a 'limited launch edition' and will be priced at £350 when it debuts August 2. However, the other two will sell for just £250 and £300. **This puts the updated console in direct competition with first-gen 4K players** from Panasonic and Samsung. The former can argue that it's a high-end gizmo in terms of performance and build; the more affordable Samsung looks more vulnerable to these better-value games machines.

But the excitement doesn't stop there. The new S range will also support HDR gaming, a console first! While there's no 4K resolution bump involved, the addition of HDR should provide a significant boost in image quality for new screen owners. It's yet to be confirmed which Xbox titles will be the first to

launch with HDR, but a fair guess might be the first games in Microsoft's Play Anywhere initiative, which enables digital buyers to download both an Xbox and Windows 10 version of a title for one price. These include *Gears of War 4*, *Forza Horizon 3*, *Sea of Thieves*, *Scalebound* and *Halo Wars 2*.

A sting in the tail

This development alone will have Xbox One owners planning an upgrade, and PS4 advocates toying with desertion. But then just 60 minutes after announcing Xbox One S, Microsoft threw everyone a curveball by confirming Project Scorpio, a third member of the Xbox One family, due for release Christmas 2017.

Scorpio, it's claimed, will be 'the most powerful console ever built' with native 4K gaming at 60Hz, as well as support for high-resolution virtual reality (VR), in addition to 4K Blu-ray and HDR support.

While we didn't actually get much insight into what Microsoft's plans for VR are, Phil Spencer did stress that his Scorpio mega-console would be fully compatible with Xbox One and Xbox One S. Quite why Microsoft would trumpet the Xbox One S and then pull the rug away with Scorpio remains open to debate. Perhaps it felt it had to before Sony confirmed release details for its forthcoming 4K PlayStation Neo – which Sony actually didn't, content to promote its PlayStation VR slate instead.

But let's not worry about confusing games and company politics. The big development from E3 is that UHD consoles are on the fast track, with 4K support and HDR joypad japes. That alone is a huge deal. And, against expectation, Microsoft has also delivered the biggest possible boost to Ultra HD Blu-ray. I reckon that's a win-win for everyone ■

Are you already planning on buying an Xbox One S? Let us know: email letters@homecinemachoice.com

Steve May is making space for yet another games console in his AV room by throwing out the chairs used by people other than him





Ci SERIES



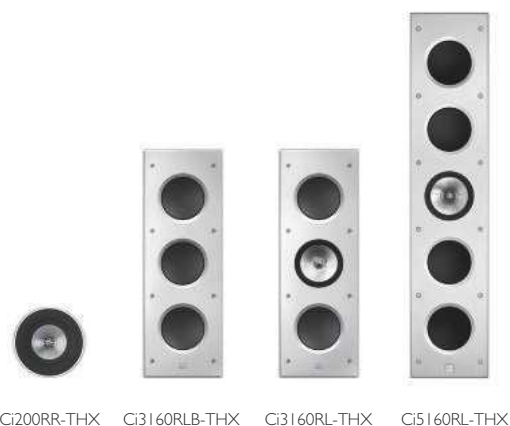
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